# The OIL and GAS JOURNAL

PRODUCING REFINING MARKETING

VOL. 23. NO. 31 TULSA, OKLAHOMA, DECEMBER 25, 1924

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# Wortham Shows Gain of 34,000 bbls.

**Average daily production in United States week ended Dec. 20, 1,975,656 bbls. Gain from previous week, 18,473 bbls.**

## Production of Crude in Entire Country Will Probably Average 2,000,000 bbls. Daily First of Year

By Andrew M. Rowley

**Highest daily average estimated production this year, week ended August 23, 2,057,319 bbls. Lowest January 12, 1,871,143 bbls.**

With ten wells in the new field at Wortham, Tex., producing more than 59,000 barrels a day on Tuesday of this week and weather conditions acting as the only brake on the steadily mounting output there; and with the Dominguez Field in California registering an increase in production last week averaging 13,000 barrels daily, it seems probable the new year will be ushered in with the oil industry in the United States producing approximately 2,000,000 barrels of crude oil daily. In addition, production will continue to increase until probably late in February with every indication the peak for 1924 of 2,057,319 barrels estimated for the week ending August 23, will be exceeded by that time.

Unusually cold weather at Wortham during the past week resulted in a shut down of about 90 per cent of the operations in the field. This delay reduced the number of completions. Otherwise, production there would have been higher. The average output per well in the Wortham Field is holding up remarkably well. At the beginning of last week, the five wells completed in the field had a daily production of slightly less than 30,000 barrels, or not quite 6,000 barrels each. With ten wells now making a little more than 59,000 barrels, the average per well is approximately the same. Moreover, one of the wells figuring in the 59,000 barrels production is estimated at 8,500 barrels a day, whereas operators believe the well is good for 12,000 barrels daily.

Cold weather had its effect on production in a number of fields throughout the country last week, in addition to holding down development work at Wortham. Other fields in the East Central Texas area, such as Powell, Mexia, Currie and Richland showed a decline of about 12,000 barrels a day in output. Oklahoma slumped about 7,500 barrels. Declines in output in different fields of the country totaled more than 26,000 barrels a day last week but the increase of 34,000 barrels at Wortham, with the gain in California and Southwest Texas resulted in the net increase of 18,473 barrels.

Wortham will continue to hold the limelight in crude production for the next two months. Late last week there were 205 operations in the field, including 124 wells drilling, 30 derricks up and 51 wells rigged. With 124 wells going towards the sand and only 18 days required to complete a well from the time location is made, numerous completions will be recorded as soon as weather conditions permit full operation.

There will not be any let-up in operations at Wortham because of lack of facilities to handle the oil. Arrangements have been made and work started already to increase the capacity of pipe lines serving the field to handle 200,000 barrels daily.

Jim Hogg County, in Texas, the most southern producing section in the United States, is the most active area in the entire Gulf Coast territory. Five wells were completed there last week with a total initial output of 3,700 barrels.

Official figures on the production of California for November reveal a decline of about 11,000 barrels daily as compared to the output in October, November being the first month since March, 1923, that the production of the State fell below 600,000 barrels daily. However, with an increase of 21,000 barrels daily recorded during the past three weeks, December may again show an average of 600,000 barrels. The Dominguez Field is largely responsible for the gain.

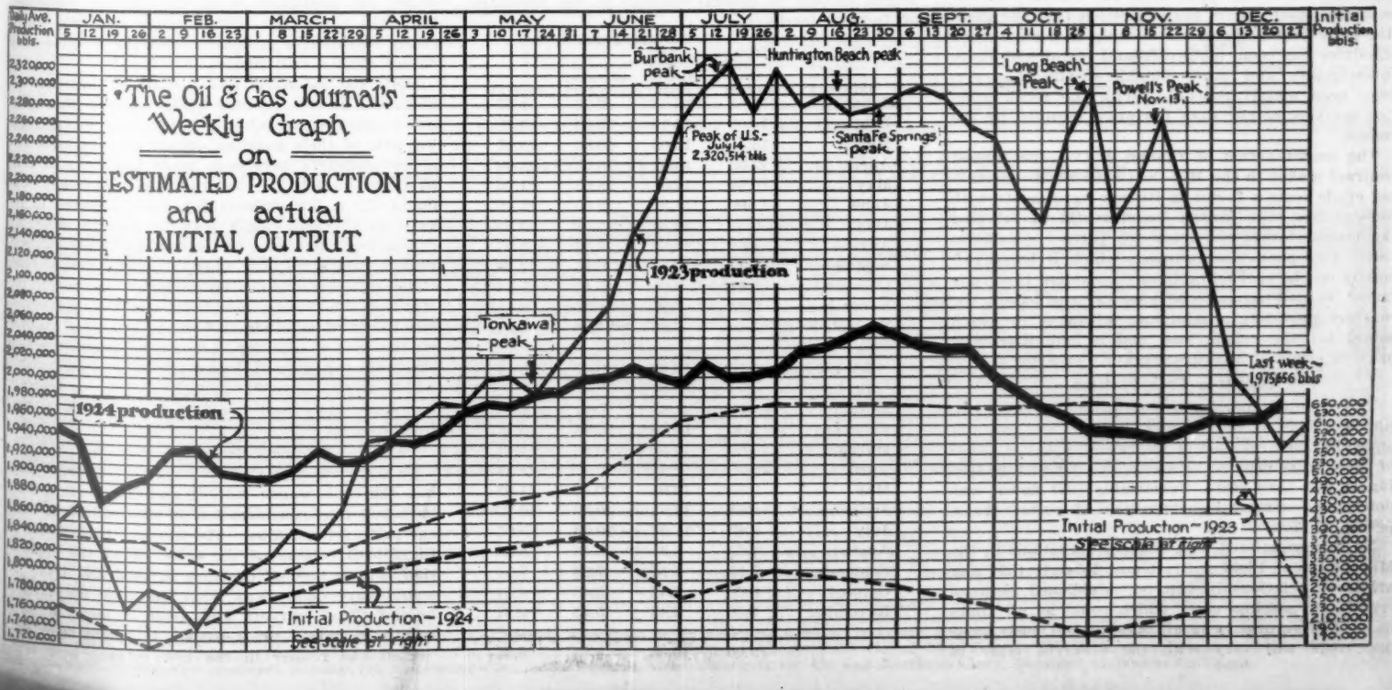
A different situation exists in regard to the production of crude petroleum now than did at this time last year. Production then was on the decline. Powell and the flush fields of California had passed their peaks and were slumping rapidly. There was no new field in sight. Now, with production last week 25,000 barrels a day greater than at the close of last year and the probability it will be around 50,000 greater at the same period this year as last and Wortham just starting towards its peak, there is every indication production will continue to climb during the early part of next year. Wortham, probably, will have passed its peak before the summer demand begins to affect the situation next year. But, until that time, it does not seem likely any material advance in crude oil prices will be made. The silver lining to this cloud, however, is the fact Wortham will be declining when consumption will start to register a substantial increase. That means crude price increases and on a more substantial basis than had they been made this month, as had been expected before Wortham was discovered.

### PRODUCTION IN THE UNITED STATES

**Estimated daily average crude oil production in the United States for the week ended December 20, and a comparison with previous week follows:**

| | Dec. 20 | Dec. 13 |
|---|---|---|
| **Oklahoma—Northern Fields:** | | |
| Tonkawa | 104,940 | 106,155 |
| Burbank | 70,245 | 70,790 |
| Other Osage Fields | 40,080 | 40,205 |
| Cushing and Shamrock | 23,540 | 23,600 |
| Bristow and Eastern Bristow | 39,025 | 39,130 |
| Cromwell | 42,380 | 46,890 |
| Papoose | 31,965 | 31,780 |
| Northern Miscellaneous | 99,220 | 100,125 |
| Southern Fields | 67,720 | 67,960 |
| Total Oklahoma | 519,115 | 526,635 |
| North Louisiana | 51,265 | 51,593 |
| **Arkansas—** | | |
| El Dorado and Calion | 10,410 | 10,685 |
| Smackover Light | 31,535 | 29,592 |
| Smackover Heavy | 65,550 | 66,565 |
| Stephens and Nevada | 3,281 | 3,480 |
| Total Arkansas | 110,776 | 110,322 |
| North Central Texas | 132,035 | 132,985 |
| Powell | 62,700 | 68,200 |
| Mexia, Currie, Richland, etc. | 42,835 | 49,400 |
| Wortham | 43,300 | 9,300 |
| Kansas | 86,500 | 87,175 |
| Total Mid-Continent Area | 1,048,526 | 1,035,610 |
| Gulf Coast | 75,605 | 77,563 |
| Southwest Texas | 46,340 | 43,385 |
| Eastern | 107,475 | 106,850 |
| Rocky Mountain Area | 84,710 | 88,275 |
| **California—** | | |
| Santa Fe Springs | 51,000 | 52,000 |
| Long Beach | 127,000 | 128,000 |
| Huntington Beach | 40,000 | 41,000 |
| Torrance | 44,000 | 44,500 |
| Dominguez | 60,000 | 47,000 |
| Remainder of State | 291,000 | 293,000 |
| Total California | 613,000 | 605,500 |
| Total United States | 1,975,656 | 1,957,183 |

**INCREASE 18,473 BARRELS**


The Oil & Gas Journal's Weekly Graph on ESTIMATED PRODUCTION and actual INITIAL OUTPUT
Daily Ave. Production bbls.
Initial Production bbls.
JAN. FEB. MARCH APRIL MAY JUNE JULY AUG. SEPT. OCT. NOV. DEC.
Burbank peak
Huntington Beach peak
Long Beach Peak
Powell's Peak Nov. 13
Peak of U.S. June 16 2,320,514 bbls
Santa Fe Springs peak
1923 production
Tonkawa peak
Last week 1,975,656 bbls
1924 production
Initial Production—1923 See scale at right
Initial Production—1924 See scale at right

# Crude as a Basis for Gasoline Prices

## Relationship Between Gasoline Based on 2 1-2 Times Posted Crude Schedules, Spot Market and Marginal Contract Basis Shown

By C. O. Willson

In the search for a satisfactory basis on which to base long time contracts between independent refiners and jobbers covering the sale of gasoline practically every conceivable type has been suggested either by the buyer or seller. Despite the general dissatisfaction with the past practice of basing the tank car selling price at the refinery on a fixed margin below the prevailing general tank wagon market of the buyer's territory many contracts have been renewed for the year 1925. This has been due to the fact that the new types of contracts offered have in these instances not been satisfactory to either the buyer or the seller and they considered the old basis better than none.

However, a start at least has been made for a new basis in contracts which are admittedly largely experimental with the parties concerned somewhat doubtful as to just how practical they will prove to be. In previous issues of The Oil and Gas Journal many of these new types of contracts have been discussed, especially those which have for their foundation, the spot market on the grade of gasoline involved at the time it is shipped from the refinery. These contracts were explained largely on a basis of what they would have meant to the buyer and seller had they been in effect during the past two years with comparisons made with representative contracts based on the tank wagon market. Many contracts have been closed founded on the spot market although a majority have had one or more qualifying clauses including both minimum and maximum margins under the local tank wagon at the point of delivery.

### Crude as Price Basis

More recently those who have failed to see any merit either in the old or new types of agreements have brought forth still another suggestion and that is to base the contracts entirely on the prevailing posted prices for crude oil or at least have it considered as one factor in determining the selling price. The idea is not entirely new for veterans of the trade state that at various times, crude has been suggested as the determining factor in gasoline price making with practical application made of the suggestion in a few instances. The fact that the practice never became general is sufficient explanation as to the success of the contract in the past. In recent years the suggestion that the gasoline price bear a direct relationship to posted crude schedules has come mainly from Federal and State investigators and other outsiders who, however, have been mainly concerned with the retail gasoline markets rather than the price received by the refiner.

The recent action of Cosden & Co.—the largest contract maker in the Mid-Continent Field—in making crude costs a factor in its new agreements with jobbers, has been largely instrumental in bringing the matter before the trade for further consideration. This particular contract, which is based primarily on the spot market, only considers the crude factor in determining the cost of production, the contract providing a minimum selling price which would net the refiner two and a half times the price of crude of 36 degrees gravity or above.

### Cosden & Co.'s Position

This company takes the position that when gasoline is selling at the refinery at less than two and one-half times the cost of the posted price of crude of 36 degrees gravity or above, the product is selling at less than cost. Presumably that figure was determined after a consideration of costs over a period of time.

No one acquainted with refinery operations in the Mid-Continent Field will attempt to state that any arbitrary relationship can be established between crude and gasoline costs which could at all times be applied accurately to all plants. Obviously gasoline costs will vary with the different types of plants, the varying grades of crudes and the constantly changing markets for other refined products. In regard to the latter most refiners apportion costs to the several products they manufacture based on the revenue received for each product. If gasoline prices are relatively high, that product bears the greater part of the cost burden. On the other hand if other products advance and gasoline prices are lowered or remain stationary the reverse is true. Since the last change was made in the Mid-Continent posted crude schedules fuel oil prices have advanced approximately 25 cents based on the spot prices. To those refiners who sell on the spot market this has meant a reduction in the cost of manufacturing the remaining products.

### Average Basis Needed

Due to this inherent situation, many have said that it is impossible to base gasoline prices on crude. Unfortunately the same objection can be made to every type of contract. The open market quotation on gasoline certaintly does not give the same margin of profit or loss to all refiners and the same is true of any type of marginal contract founded on tank wagon markets. The best apparently that can be expected of any type of contract is an average basis sufficiently representative to cover average conditions in refinery operations with disaster assured to those who cannot measure up to this standard and large profits to those who operate with the greatest efficiency.

Another objection voiced has to do with the claim that crude price changes in all fields are often not the same. Within the Mid-Continent area it is pointed out that posted crude schedules are sometimes changed in Oklahoma and Kansas with no changes in North Louisiana and Arkansas. Considered over a period of several months it is doubtful if this objection has any real merit. A study of crude price tables will show that while changes are not always made at the time time fundamental conditions which bring about these changes affect all areas and over a period of a year variations in crude prices are approximately the same.

### The Graph and Table

Before passing to other phases of the suggested contract, attention is called to the accompanying graph and the table on which it is based. The data are largely self explanatory. The table gives the average monthly prices of U. S. Motor (New Navy) gasoline of 58-60 gravity. One price is based on the Oklahoma (Group 3) spot market, the average monthly figure being derived from the low quotation as carried in the weekly issues of The Oil and Gas Journal. A second price was obtained by taking two and one-half times the average monthly posted crude schedules for crude of 36 degrees gravity or above. The third price represents the average monthly return to an Oklahoma refiner from a 4½-cent marginal contract for delivery at Indianapolis, Ind. The fourth price represents the average of the three.

As shown in the table a gasoline contract in which the refiner secured 2½ times the posted price for crude of 36 gravity or above would have netted the refiner a monthly average in 1923 of 10.82 cents and the first 11 months of this year 10.36 cents. This shows the close relationship to crude prices this year and last. These prices compare with an average spot market of 9.75 cents in 1923 and 9 cents the first 11 months of this year. The marginal contract monthly average for the two years is very close to the average in the spot market, being 9.87 cents in 1923 and 8.74 cents up to December 1 of this year.

### The Crude Price Basis

Since the average price based on crude was higher for the two years than either the spot market or the marginal contract basis, the inference might be made that the crude basis is favorable to the refiner under all conditions with the further contention that 2½ times the posted crude schedule would really represent a profitable basis for gasoline sales rather than a cost figure.

Both the inference and contention are open to dispute. A few refiners have claimed that they could operate profitably if they could contract for the sale of their gasoline output on that basis and a few contracts have been made for the year 1925 at approximately that relationship with crude. Undoubtedly a few refiners favorably situated in regard to a crude supply may be able to profitably contract at that figure. But to the Mid-Continent refining industry as a whole it would not be true. Refinery operations during the past two years in the Mid-Continent have not been generally profitable regardless of whether the refiner sold his gasoline on the spot market or through contracts based on the tank wagon quotations. The additional revenue which would have been derived from a contract based on crude would not have materially altered this situation.

### Protects Buyer and Seller

It has been suggested by some that the spot market, the tank wagon market and the crude market be taken into consideration in determining a tank car price for gasoline. The average price given in the fourth column of the table shows the application of this type of contract in 1923 and 1924. It would have done away with the wide fluctuations in the three markets and given a more uniform month to month price basis. It would have protected the refiner in the low returns now being

## MONTH-TO-MONTH RELATIONSHIP

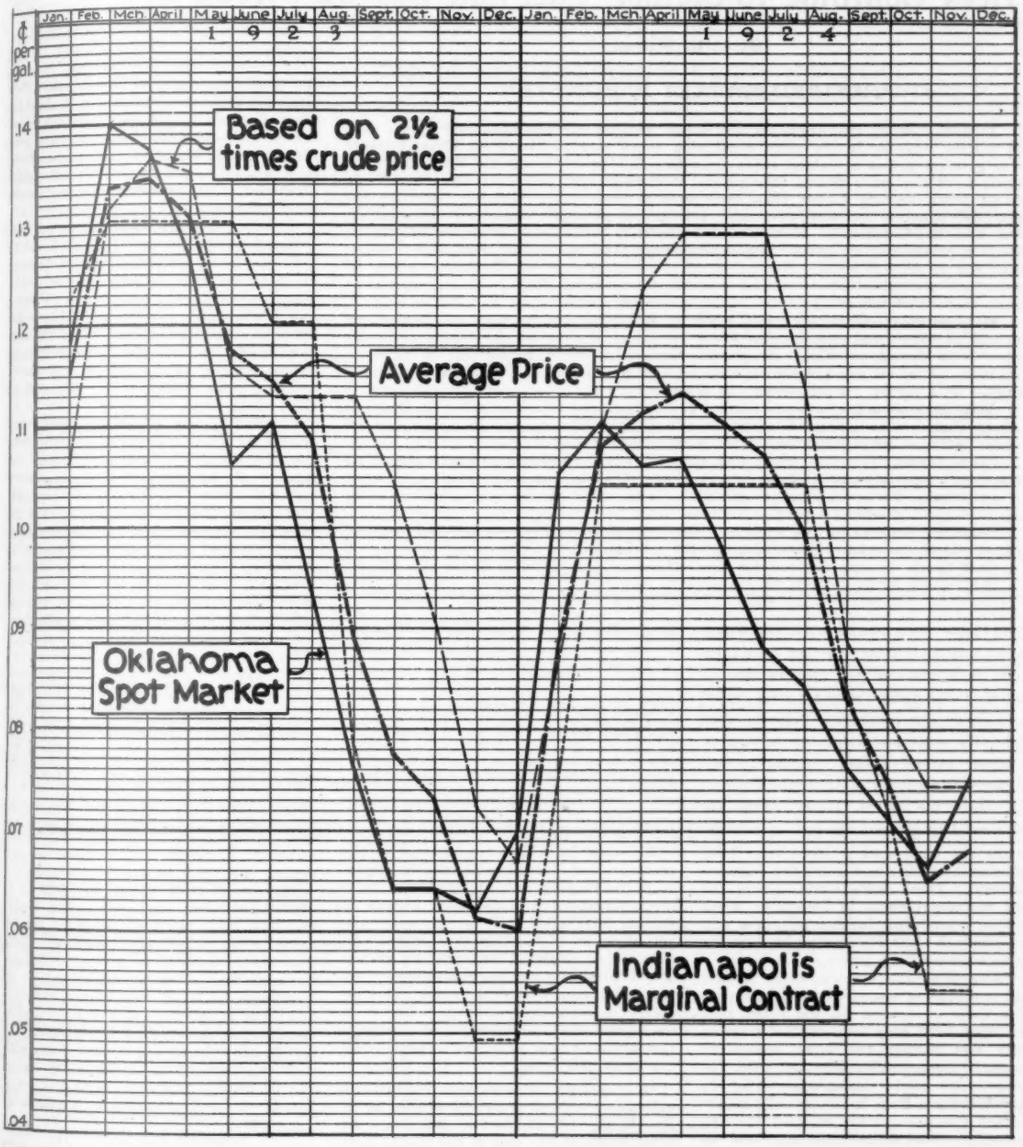
The following table and the accompanying graph show the month to month relationship during 1923 and 11 months of 1924 between prices of U. S. Motor 58-60 gasoline f.o.b. Oklahoma refiners. The price based on crude represents two and one-half times the schedules for Oklahoma crude of 36 degrees gravity and above as posted by the Prairie Oil & Gas Company. The marginal contract is based on 4½ cents under the Indianapolis tank wagon subject to general changes in the Standard of Indiana territory.

| | Cents per gallon | | | |
|---|---|---|---|---|
| | Oklahoma (Group 3) Spot Market | 2½ Times Crude Price | Indianapolis Marginal Contract | Average |
| 1923— | | | | |
| January | 11.85 | 10.63 | 12.23 | 11.57 |
| February | 14.00 | 13.13 | 13.03 | 13.38 |
| March | 13.75 | 13.65 | 13.03 | 13.47 |
| April | 12.69 | 13.52 | 13.03 | 13.08 |
| May | 10.64 | 11.6 | 13.03 | 11.76 |
| June | 11.06 | 11.3 | 12.03 | 11.46 |
| July | 9.35 | 11.3 | 12.03 | 10.89 |
| August | 7.62 | 11.3 | 7.83 | 8.91 |
| September | 6.44 | 10.4 | 6.43 | 7.76 |
| October | 6.44 | 9.07 | 5.43 | 7.31 |
| November | 6.23 | 7.25 | 4.93 | 6.14 |
| December | 7.00 | 6.69 | 4.43 | 6.04 |
| Average | 9.75 | 10.82 | 9.87 | 10.14 |
| 1924— | | | | |
| January | 10.55 | 8.69 | 7.43 | 8 89 |
| February | 11.06 | 10.95 | 10.43 | 10 81 |
| March | 10.62 | 12.37 | 10.43 | 11.14 |
| April | 10.7 | 12.91 | 10.43 | 11.34 |
| May | 9.75 | 12.91 | 10.43 | 11.03 |
| June | 8.81 | 12.91 | 10.43 | 10.72 |
| July | 8.45 | 11.37 | 10.03 | 9.95 |
| August | 7.65 | 8.9 | 8.43 | 8.33 |
| September | 7.15 | 8.15 | 7.23 | 7.51 |
| October | 6.66 | 7.43 | 5.43 | 6.51 |
| November | 7.56 | 7.43 | 5.43 | 6.81 |
| | 9.00 | 10.36 | 8.74 | 9.37 |

obtained and which were received the latter part of last year in marginal contracts. To a lessor extent it would have protected the buyer when the spot market is relatively high. Many of the trade believe that this type of contract is highly desirable because it assures both the buyer and seller all the protection that it is possible to obtain. The main objection lies in the complicated features which might bring many disputes among the parties concerned.

A study of the month to month relationship between the contract based on crude and the spot market reveals the fact that the two prices at times are so wide apart that the former considered alone would be subject to the same objections which has brought the dissatisfaction with the marginal contract basis. The main complaint of the refiners in regard to the marginal contracts has to do with the fact that jobbers will not carry out the agreements when the spot market is relatively low and as a result the refiner finds himself with gasoline accumulations which are a factor in bringing further declines in the spot market. This situation is probably the most vital objection to be offered to the crude base type of agreement.

In closing, attention is called to a situation which applies to all contracts. This has to do with the fact that conditions in regard to crude and refined markets have been abnormal during the past two years, the usual period covered when attempts are made to gauge the probable workings of a new agreement during the coming year. As one refiner has expressed it: "I would question any type of contract covering gasoline sales for the future which would have been satisfactory had it been in effect during the past two years. We have had an unusual relationship between crude, refinery and tank wagon markets a greater part of the time and a contract which would have been satisfactory then would be equally unsatisfactory if general market conditions ever become normal again."




## ANOTHER FRENCH FUEL NOW REPORTED FOUND

Exhaustive tests by the French artillery laboratories at Vincennes are said to have justified the claims made for a new motor fuel extracted from de-benzolized coal tar by a process invented by M. Makhonine, a Russian engineer.

When used in heavy trucks and tractors, according to Le Matin, the fuel developed much greater power than gasoline and gave slightly higher mileage to the gallon. Its cost is said to be only one-tenth that of gasoline. Further experiments are to be made with 40 trucks which will cover between 2,000 and 3,000 miles each.

Pending further data regarding the tests experts are withholding judgment, although inclined to be skeptical of the merits claimed for the fuel.

### POWELL FREIGHT RATE

AUSTIN, Tex., Dec. 20.—Freight rates of $18 per car on carload shipments of crude petroleum from Powell and Stribling, Tex., to Corsicana, Tex., was fixed by the State Railroad Commission, on application of the St. Louis Southwestern Railway Co. of Texas.

### GETS TEXAS PERMIT

AUSTIN, Tex., Dec. 20.—The Pennok Oil Corp. of Tulsa, Okla., has been admitted to do business in Texas. Its capital stock is 150,000 shares, non par value. Texas headquarters will be maintained at Breckenridge, with B. O. Thralls designated as State agent.

## DISTINGUISHED OIL MEN VISIT NEWSPAPER PLANT

The above photograph, which includes some of the most eminent oil executives of this country and Canada, was taken at the plant of the Fort Worth Star-Telegram during the American Petroleum Institute meeting in Fort Worth, Tex., recently.

The Star-Telegram is owned by Amon G. Carter, who was host at a banquet given to the leaders of the oil industry on Monday evening, December 8, an occasion which will long be remembered by those who had the pleasure of attending it, and the visit to the newspaper plant was made in compliment to Mr. Carter.

Those in the group, reading from left to right, were: E. J. Sadler, vice president Standard Oil Co. of New Jersey; Walter C. Teagle, president Standard Oil, New Jersey; Harry C. Weiss, vice president Humble Oil & Refining Co.; L. E. Phillips, vice president Phillips Petroleum Co.; J. C. Donnell, dean of the oil producers and president of the Ohio Oil Co.; Amon G. Carter, president and publisher the Star-Telegram; William N. Davis, president Mid-Continent Oil & Gas Association; W. S. Farish, president Humble Oil & Refining Co.; Edward Prizer, chairman of the board of directors, Vacuum Oil Co.; Amos L. Beaty, president The Texas Co.; Frank Phillips, president Phillips Petroleum Co.; W. G. Skelly, president Skelly Oil Co.; K. R. Kingsbury, president Standard Oil Co. of California; J. H. Senior, vice president Standard Oil, New Jersey; C. O. Stillman, president Imperial Oil Co. of Canada; R. L. Blaffer, vice president and treasurer Humble Oil & Refining Co.; J. H. Moffett, Jr., vice president Standard Oil Co. of New Jersey; W. C. Brower, manager crude oil division, Vacuum Oil Co. and Northrop Clary, assistant to Walter C. Teagle.

# Zero Weather Aids Distillate Demand

## Increased Consumption Reflected in Higher Prices at Refineries
## Gasoline Prices Continue to Slump. Fuel and Gas Oil Strong

By C. O. Willson

Cold weather, accompanied by severe storms in Oklahoma and the Middle West is held mainly responsible for the two outstanding developments in the Group 3 (Oklahoma) refined market during the past week, one of which was favorable from the standpoint of the seller and the other was not. The change in temperature brought the long delayed demand for fuel distillates, both on contracts and in the open market, with the result that the market on all grades is stronger than it has been for several months. The same weather condition which emphasized the heating importance of petroleum to thousands of domestic consumers brought a dearth of orders for motor fuels which hastened the slump in gasoline prices which first got under way the previous week.

Due to the improved demand distillate prices advanced ⅛- to ¼-cent. The demand is coming largely from jobbers in the Middle West who are anxious to keep a supply on hand sufficient to take care of a consumption which has increased from 25 to 50 per cent according to reports from representative sections where zero weather has prevailed for several days. Some of these jobbers who have been taking the minimum requirements of their long time contracts with refiners asked for maximum shipments. To supply this demand at least two refiners in Oklahoma found it necessary to enter the market themselves and they were numbered among the buyers seeking immediate shipment the first of this week. Another factor in the situation has been the impaired rail service brought about by the storms. These delayed deliveries brought many jobbers into the market anxious to place new orders.

### Gasoline Situation

Whatever benefit has accrued to refiners due to the advance in distillates—which comprise a relatively small part of the total Oklahoma refinery output and a product which several plants do not manufacture—was more than lost in the gasoline price slump. The gasoline market outlook was unfavorable before the advent of the zero weather and slight reductions would probably have developed had weather conditions been more normal.

But with very little domestic buying and still less activity in the export field, all predictions in regard to lower prices have more than materialized. With wire and mail service badly crippled the usual connections between buyer and seller were impossible the latter part of last week and many of the trade believe the price declines are largely a psychological development of this unexpected situation. The lower prices are coming from the few plants who have gasoline they would like to move before the end of the month. Other concerns, including several of the larger refiners, withdrew from the market pointing out it was useless to lower prices when buyers were not seeking new supplies, regardless of price.

The U. S. Motor 58-60 grade quickly slumped from a high of 8¾ cents to a low of 8 cents. The demand improved slightly on Monday when mail orders were delivered to the refinery sales offices and more jobbers were able to get in touch with refiners by wire. However, this did not prevent a few refiners from offering still greater concessions scattering sales being made at 7¾ cents on Monday and Tuesday. Market conditions are not expected to return to normal until after the Christmas holidays when both buyers and sellers will probably show greater interest in shipments for January delivery.

A few gasoline sales for January delivery have been placed with Oklahoma plants. In most instances they have been made on a basis of the spot market at the time the order was placed. Short sales made by marketers indicate that fraternity expects still further declines in gasoline prices during January. One marketer is reported to have sold short at 8¼ cents for U. S. Motor 58-60 for January delivery and another at 8 cents during the past week. Other sales have been made as high as 9 cents for January delivery. These were made during the bull movement early in December when jobbers feared still further advances and covered both their December and January requirements at top prices.

Those who believe the gasoline market will continue to slump in most instances base their contention on the belief that exporters will stay out of the market. They feel certain the large decline in domestic consumption together with the easier crude market brought about by the new Wortham Pool in Texas will assure a weak gasoline market at least through January. The trade generally, due to the Wortham Pool, does not now expect any crude or tank wagon price advances until February or March and so these possible bullish developments are entirely eliminated from consideration.

### Statistical Position

Some light on the actual statistical position of gasoline at the present time can be obtained from a bulletin issued by the Western Petroleum Refiners Association. The estimate as to stocks on December 31 was based on data obtained from the Bureau of Mines reports, the latest of which covered October operations. In making the estimate it was assumed the October rate of production would be maintained during November and December and the demand the first 10 months of the year would equal 84.31 per cent of the total demand for the year, the average percentage as determined from a study of Bureau of Mines reports over a number of years. Based on this estimate the refining industry will enter the new year with stocks which total 1,274,511,950 gallons.

For the purpose of showing the relative situation by areas at the present time the writer has compared the estimates in regard to stocks as of December 31 with those on the same date a year ago as given by the Bureau of Mines report. The following table shows this relative situation:

| | Gaso. Stocks Dec. 31, 1923 | Estimated Gaso. Stocks Dec. 31, 1924 | *Increase †Decrease |
|---|---|---|---|
| East Coast | 246,275,432 | 212,474,337 | †33,801,095 |
| Pennsylvania | 25,141,106 | 34,049,384 | * 8,908,278 |
| Indiana-Illinois | 112,923,211 | 144,977,292 | *32,054,081 |
| Oklahoma-Kansas | 138,199,798 | 107,478,219 | †30,721,579 |
| Texas | 147,399,469 | 202,694,982 | *55,295,513 |
| Louisiana-Arkansas | 109,592,435 | 120,002,682 | *10,410,247 |
| Colorado-Wyoming | 103,587,914 | 94,401,142 | † 9,186,772 |
| California | 191,780,375 | 358,433,912 | *166,653,537 |
| Total | 1,074,899,650 | 1,274,511,950 | *199,612,300 |

### Increase Not Large

Allowing for a 5 per cent error in the estimates for December 31 of this month, it is reasonably certain that the total stock figure of 1,274,511,950 gallons is within 50,000,000 gallons of what the actual report of the Bureau of Mines will show when issued in February or March. The 199,612,300 gallons represents a 15.8 per cent increase in total stocks. This increase is certainly not large when it is considered that the increase in consumption for 1924 over 1923 will be practically the same per cent.

It is worthy of note that 166,653,537 gallons of this increase in stocks is in the hands of California refiners. In other words stocks east of the West Coast are only approximately 33,000,000 gallons greater than they were a year ago. The increase in domestic demand alone has been approximately twice that much several months of this year over the same months of last year. In September, the domestic demand plus export was 103,451,786 gallons greater than exports plus domestic demand for September of last year.

The East Coast, Oklahoma and Kansas and Colorado and Wyoming have less stocks than they had a year ago. It is interesting to note that the Oklahoma-Kansas stock decline amounts to 30,721,579 gallons. This total, however, could be largely accounted for in the reduction of stocks of one refinery located in Oklahoma. It was not possible to separate the Mid-Continent area from the Gulf Coast area in the Bureau of Mines reports a year ago. However, this separation can now be made and the Western Petroleum Refiners Association estimates there are 131,819,949 gallons in stock at the inland refiners at present. This would indicate that the 55,295,513-gallon increase in stocks shown in Texas is in hands of Gulf Coast refiners, the North Central area having less than it had a year ago. The same situation applies to the Gulf Coast area in Louisiana. Possibly the greatest significance of these increased stocks in the Gulf Coast area so far as Mid-Continent markets are concerned lies in the fact that these stocks may supply an export demand which otherwise would be obtained from the inland refiners.

### Strong Position

Another development indicated in the table lies in the 32,054,081-gallon increase in Indiana and Illinois stocks. The Standard of Indiana plants at Whiting and Wood River are the most important refiners in that area, leading to the conclusion that the dominant market organization of the Middle West has exceptionally large stocks at its refineries at the present time.

Considered as a whole the obvious conclusion is that considered strictly from the standpoint of gasoline stocks the market at the present time occupies a strong position. This was true last year and the year before on the same date but this did not prevent an overproduction which brought a 50 per cent increase in stocks by late spring, reflecting an abnormal situation in supply and demand. With past history in mind market observers are cautious in their predictions, although agreeing the outlook at the present time can be termed favorable.

The situation in regard to 58-60 U. S. Motor has been explained. The higher gravities have slumped, although not as much as the principal motor grade. With no export demand in the field refiners have shifted their plant operation so relatively little of the higher gravities are being manufactured and only limited amounts are being offered the trade. The 64-66, 400 sold as low as 9¼ cents with a price range up to 9½ and 9¾ cents. The 64-66, 373 sold at 10½ and 11 cents. Plenty of 50-52 naphtha is available at 7¾ cents.

### Kerosene and Distillates

As previously explained, the demand for distillates has been strong. The 38-40 straw was scarce at 3¾ cents and several refiners were getting that price for the lower gravities. Kerosenes are still weak and the 41-43, water white has slumped to a low of 4¼ cents. Refiners believe the distillate demand will aid the kerosene market as many refiners state they will make distillate rather than kerosene so long as there is only ¼-cent difference in price.

### Natural Gasolines and Blends

The demand for all grades of natural gasoline has fallen off and prices are lower. The greatest reduction has applied to the B grades and Grade C. The extremely cold weather has made it difficult for the manufacturers to make a product of either Grade A or Grade Double A specifications. A few manufacturers reported sales of the A grades as high as 8¾ cents for immediate shipment. Several manufacturers were selling Grade C as low as 7¾ cents. Sales for January delivery have been made at present prices. With refiners storing gasoline a seasonal slump in demand for natural gasoline is expected by the manufacturers who nevertheless state they expect

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### REFINED MARKET BAROMETER

A falling off in the wholesale and retail demand for gasolines due to the cold and stormy weather in the main consuming areas east of the West Coast brought lower gasoline prices at inland refineries. Gasoline prices along the West and East Coasts have not yet reflected this general reduction, spot prices at Bayonne, N. J., in fact being slightly higher than they were a week ago. The zero weather has aided the demand for distillates and prices are generally higher in the Middle West and Mid-Continent. Kerosenes are generally weak with price reductions reported in practically all areas. Fuel and gas oils continue strong with higher prices prevailing in several areas. Natural gasolines weak except in California where all grades are strong. Fair to strong demand for blends. Zero cold test oils only strong feature of lubricating oils. Wax continues strong.

**Mid-Continent**—Gasoline prices lower in all areas due to slow up in demand. Natural gasolines and blends also lower in price. Prices on distillates generally higher with strong demand. Kerosenes weak with large reductions in price in Arkansas. Fuel oil demand strong. Gas oil prices higher in Oklahoma and North Texas. Wax strong. Lubricating oils slow.

**Atlantic Seaboard**—Domestic market generally firm. Gasoline prices at Bayonne slightly higher with scattered advances effective in lubricating oils. Furnace oil steady. Decline in exports from New York believed temporary.

**Pennsylvania**—Gasoline weak and prices lower. Kerosene prices lower, Fuel oil strong. Neutrals and cylinder stocks slow. Wax strong.

**California**—Little change in market. Less price cutting in retail gasoline sales. Natural gasolines strong.

**Chicago**—Gasoline prices decline. Kerosene slow. Improved demand for distillates. Fuel oil quiet. Better demand for lubricants.

**Gulf Coast**—Strong demand for zero cold test lubs. Fuel and gas oils strong.

# President Creates Commission on Oil

## Asks Cooperation of Petroleum Industry in Conservation in Production and Economy in Use. Approved by Leaders of Industry

WASHINGTON, D. C., Dec. 20.—President Coolidge has issued an order creating an oil conservation board consisting of the Secretaries of War, Navy, Interior and Commerce, Messrs. John W. Weeks, Curtis D. Wilbur, Hubert Work and Herbert Hoover. The board will study the Government's responsibilities in oil conservation and will seek the full cooperation of the oil industry to that end.

The board will have power to recommend legislation regulating methods for the development of oil structures by cooperation of land owners to avoid waste. As shown in these dispatches if this should be attempted by owners of oil lands without additional legislation they probably would be proceeded against by the Department of Justice as acting in restraint of trade. The appointment of this board by the President was the result of a recommendation of Secretary of the Interior Work. The board will not meet until after the holidays. Probably Secretary Work will be made chairman.

The commission on oil appointed by Mr. Coolidge last March to study the future supply of oil for the Navy, consisting of George Otis Smith, director of the United States Geological Survey; Rear Admiral Hilary P. Jones, and R. D. Bush of California, will work in cooperation with the new board. The President announced the creation of the new board in letters addressed to the Secretaries of War, Navy, Interior and Commerce, in which he said:

### President's Letter

"It is evident that the present methods of capturing our oil deposits is wasteful to an alarming degree, in that it becomes impossible to conserve oil in the ground under our present leasing and royalty practices if a neighboring owner desires to gain possession of his deposits.

"Developing aircrafts indicate that our national defense must be supplemented if not dominated by aviation. It is even probable that the supremacy may be determined by the possession of available petroleum and its products. I am advised that our current oil supply is kept up only by drilling many thousands of new wells each year, and that the failure to bring in producing wells for a two-year period would slow down the wheels of industry and bring about serious industrial depression.

### Must Avoid Storage

"The problem of a future shortage in oil and lubricating oil, not to mention gasoline, must be avoided, or our manufacturing productivity will be curtailed to an extent not easily calculated.

"We are not today, however, facing an undersupply of oil.

"The production of our 300,000 wells is in excess of our immediate requirements. That overproduction in itself encourages cheapness which in turn leads to wastefulness and disregard of essential values. Oil of which our resources are limited, is largely taking the place of coal, the supply of which seems to be unlimited, but coal cannot take the place of oil in most of its higher uses, on land or sea or in the air.

"For the purpose of giving this responsibility of Government in all of its aspects the consideration it demands, I have constituted a Federal Oil Conservation Board consisting of the Secretaries of War, Navy, Interior and Commerce, to study the Government's responsibilities and to enlist the full cooperation of representatives of the oil industry in the investigation. The Government itself is at present one of the largest of the lessors of oil lands, and the public domain still includes large undeveloped reserves of oil, so that the administration of oil resources is a practical question with the Department of the Interior.

### Open Conferences

"I would express the desire that these conferences may be open and exhaustive. The oil industry itself might be permitted to determine its own future. That future might be left to the simple working of the law of supply and demand but for the patent fact that the oil industry's welfare is so intimately linked with the industrial prosperity and safety of the whole people, that Government and business can well join forces to work out this problem of practical conservation.

"Last March I appointed a commission to advise me on the special subject of the best policy to insure the future supply of fuel oil for the Navy. That commission will continue to function in its limited field and might to advantage sit with the Conservation Board in the Conferences I expect will be held between these four Secretaries directly concerned, and the outstanding producers of petroleum. Similarly, the members of the Conservation Board will call upon their technical advisers in the bureaus to contribute to the full discussion of ways and means of safeguarding the national security through conservation of our oil."

### Helium to Be Saved

Recommendations to be presented by the oil conservation board named by President Coolidge undoubtedly will include the protection of the country's helium supply now being wasted at an alarming rate, it was admitted in administration circles.

In promoting conservation of oil and all its products, the Government will call to its aid the oil industry, and consider the problem from the standpoint of production methods to reduce wastage, promote economies in uses and strengthen the national defense. For years economists have been urging something be done to lessen the terrific drain upon the nation's oil supply, otherwise the country would be facing an oil famine.

While helium does not figure specifically in President Coolidge's statement, it is a by-product and under development has come to be one of the most important materials in aviation.

Bills have been pending in Congress for several years seeking to have governmental conservation of this important inert element extracted from natural gas. The only supply of helium now being obtained is from gas from the Petrolia (Texas) Field, which is rapidly wearing out. Hearings have been held on the conservation bill, but without action.

In the House of Representatives Mr. Lanham of Texas called attention to the importance of helium conservation, and Representative Jones of the Amarillo district, now producing a great footage of gas high in helium content, but being wasted, offered an amendment to the naval appropriation bill, which would have transferred $5,000,000 from the naval building program to a program of conservation of helium. In the main the Jones amendment, which went out on a point of order by falling under a classification of the rules, would have made the fund available in carrying out the conservation policy in the pending bills before the Military Affairs Committee.

### Recommended by Board

This would have included the acquisition of land or interest in land by lease or condemnation and the exploration for helium-bearing gas, as well as the establishment of plants for extracting and experimenting in the development of methods. He explained to the House that this had been recommended

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### COMMISSION WELCOMED BY OIL INDUSTRY SAY MESSRS. BEDFORD, BEATY AND PEW

NEW YORK, Dec. 20.—A. C. Bedford, chairman of the board of directors of the Standard Oil Co. of New Jersey, in reply to an inquiry from The Oil and Gas Journal, said:

"The President's appointment of a Federal conservation board to study the Government's responsibilities toward the petroleum industry and to enlist the cooperation of its representatives in approaching a solution of the conservation problem is viewed favorably by the Standard Oil Co. of New Jersey. From a brief summary of President Coolidge's letter to the Secretaries of War, Navy, Interior and Commerce it is evident that the program of this newly created board is one of constructive cooperation laid out in business-like manner and has our positive endorsement."

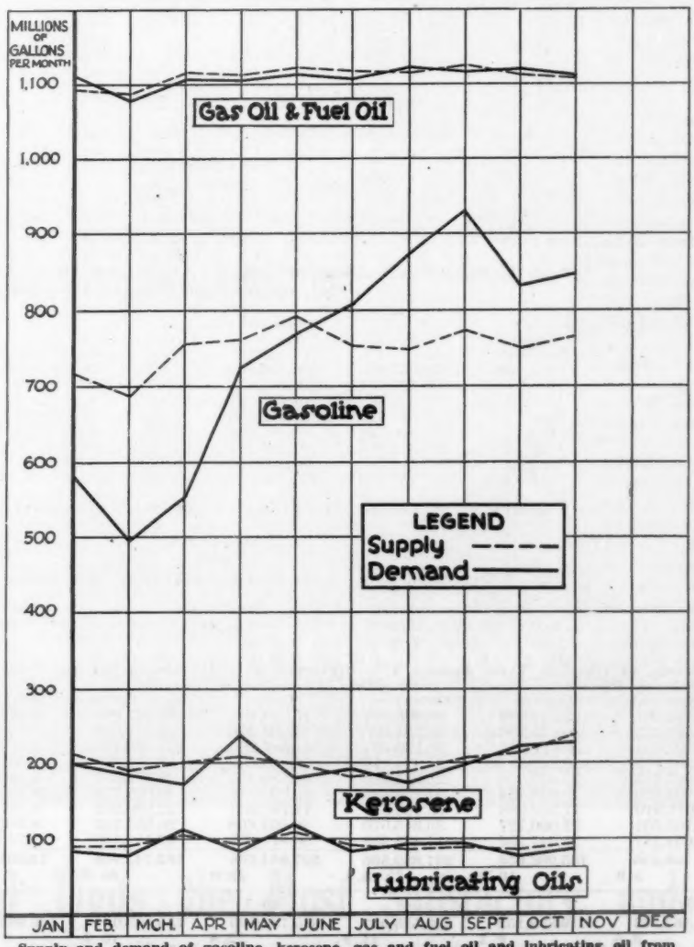
Judge A. L. Beaty, president of The Texas Co., said:

"It will be a blessing if the Federal Oil Conservation Board can bring about a solution of the problem. Too much oil is being taken from the ground in this country, there can be no question about that, and I am certain that the leaders in the industry will cooperate 100 per cent. The big question is, how can it be done? No feasible plan has yet been conceived by men in the industry, though they have given the subject much serious thought. I hope the combined efforts of the Government and its patriotic citizens may bear fruit."

J. Edgar Pew, president of the American Petroleum Institute, issued the following statement from the institute headquarters in New York:

"I am especially gratified that the President in appointing the Federal Oil Conservation Board has asked it to consult with the oil industry. The full cooperation of the entire industry undoubtedly will be given. The matter is of such importance that at the earliest practicable date I shall call a meeting of the board of directors of the American Petroleum Institute, which organization is representative of all branches of the industry."

### REFINERY STATISTICS FOR 10 MONTHS, 1924




Supply and demand of gasoline, kerosene, gas and fuel oil and lubricating oil from January 1 to October 31, 1924. Supply includes production plus imports and demand, consumption plus exports

# Industrial Position of Kerosene

## How Recovery of "Coal Oil" Has Grown in the Mid-Continent
## Comparison With Consumption of Gasoline Here and Abroad

By Charles E. Bowles

"Coal oil" was made east of the Mississippi River for 40 years before oil development started in the Mid-Continent fields. But today more kerosene is made in the Mid-Continent than by all of the refineries east of the Mississippi.

In the first nine months of 1924 the Mid-Continent, including the Gulf Coast, made over 45 per cent of all the kerosene made in the United States—the refineries in the eastern area made 39 per cent—the Rocky Mountain refineries made 4 per cent—and the California refineries 11 per cent.

The refineries along the Atlantic Seaboard, most of which are located in New York harbor, Philadelphia, Baltimore and Boston, ran 108,235,000 barrels of crude to stills in the first nine months of 1924. From these runs they made 9,849,000 barrels of kerosene—an average recovery of 9.1 per cent.

Pennsylvania was the birthplace of the manufacture of "coal oil" from crude oil—and in the first nine months of 1924 the refineries in this area which also includes western New York, West Virginia and eastern and central Ohio, ran 17,072,000 barrels of oil to stills and made 2,550,000 barrels of kerosene—an average recovery of 14.9 per cent.

The area referred to in the column marked "Indiana," in Table 1, includes the refineries in western Ohio, Indiana, Illinois, Kentucky and Tennessee. In the first nine months of 1924 these refineries run 44,300,000 barrels of oil to stills and made 4,426,000 barrels of kerosene—or an average recovery of 10 per cent.

### Varying Percentages

The different qualities of crude oil handled by the different refineries in these three areas, the different types of refineries and the policy of the different refiners as to the proportion of the different products that they needed for their markets, are all reflected in the varying average percentages of kerosene made in these three different areas. The East Coast refiners made 9.1 per cent kerosene from their crude—the Pennsylvania area refiners made 14.9 per cent kerosene from their crude—and the Indiana area refiners made 10 per cent kerosene from their crude.

Proof of the fact that these percentages change slowly, but that the range of change is relatively narrow, is clearly found by comparing the figures for the first nine months of 1924 with the figures for the entire year 1923.

In 1923, in the Eastern area, the refineries ran 125,103,000 barrels to stills and recovered 13,479,000 barrels of kerosene—an average recovery of 10.8 per cent. In other words the Eastern refineries recovered 1.7 per cent less kerosene during the first nine months of 1924 than they averaged for the year 1923. This difference (1.7 per cent) is equal to a decrease of nearly 16 per cent based on the 1923 recovery.

In 1923, in the Pennsylvania area, the refineries ran 21,926,000 barrels to stills and recovered 3,606,000 barrels of kerosene—or an average recovery of 16.5 per cent. In the first nine months of 1924 the average kerosene recovery in this area was 14.9 per cent—a decrease of 1.6 per cent, or about 10 per cent, based on the 16.5 per cent recovery in 1923.

In the Indiana area last year the refineries ran 52,560,000 barrels of oil to stills and made 5,165,000 barrels of kerosene—an average recovery of 9.8—or almost the same as the recovery for the first nine month of 1924 (10.0 per cent).

### East of Mississippi

Taking the area east of the Mississippi, as a whole, in 1923 the refineries ran 199,589,000 barrels to stills and made 22,250,000 barrels of kerosene—an average recovery of 11.2 per cent. In the first nine months of 1924 these refineries ran 169,607,000 barrels to stills and recovered 16,825,000 barrels of kerosene— or an average recovery of 10.0 per cent.

From the standpoint of percentage recoveries, the refineries in these three areas emphasized not only that the factors entering into the change in refinery outputs are constantly operative but that they operate within relatively narrow limits. In tabular form these changes in the percentage of kerosene recovered would be as follows:

| Area— | Year 1923 | Nine Months 1924 |
|---|---|---|
| East Coast | 10.8 | 9.1 |
| Pennsylvania area | 16.5 | 14.9 |
| Indiana Area | 9.8 | 10.0 |
| Average | 11.2 | 10.0 |

While the California oil fields were developed some years ahead of the Mid-Continent—and many years ahead of the Rocky Mountain area—the early California development was practically all low gravity crude with very little kerosene content. The Rocky Mountain area has never produced a very large gallonage of kerosene, hence it is obvious that up to the opening of the Mid-Continent, some 25 years ago, the area east of the Mississippi River made practically all of the "coal oil" for the United States—and the greater part of the world supply—in fact the "coal oil" business was the foundation upon which the petroleum industry was built.

In 1910 the output of crude oil in the Mid-Continent exceeded, for the first time, the output of the oil fields east of the Mississippi—and today the Mid-Continent is producing more than nine times as much crude oil as the Eastern area—its refineries are running more oil to stills than the refin-

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**Table 3—Kerosene Balance Sheet, January 1, 1918 to September 30, 1924—All Entries in Gallons**

| Year— | Stock January 1 | Domestic Production | Imports | Exports | Domestic Consumption | Stock December 31 | Added to Stock |
|---|---|---|---|---|---|---|---|
| 1918 | 497,750,082 | 1,825,360,137 | *.... | 496,444,707 | 1,446,547,683 | 380,117,829 | †117,632,253 |
| 1919 | 380,117,829 | 2,341,632,164 | *..... | 988,537,266 | 1,393,893,037 | 339,319,690 | †40,798,139 |
| 1920 | 339,319,690 | 2,320,095,443 | *..... | 876,878,331 | 1,389,465,879 | 393,070,923 | 53,751,233 |
| 1921 | 393,070,923 | 1,945,126,156 | *..... | 756,651,990 | 1,240,536,534 | 341,003,555 | †52,062,368 |
| 1922 | 341,003,555 | 2,306,326,489 | 146,450 | 902,535,070 | 1,463,896,092 | 281,050,352 | †59,953,203 |
| 1923 | 281,050,352 | 2,348,934,712 | 301,483 | 854,554,951 | 1,492,535,909 | 283,195,667 | 2,145,315 |
| 1924 | 283,195,667 | 1,811,090,133 | 263,127 | 672,158,018 | 1,124,642,228 | 297,748,681 | 14,553,014 |
| Total .. | 407,750,082 | 14,898,565,234 | 711,030 | 6,547,760 333 | 9,551,517,362 | 297,748,681 | |
| | | 14,899,276,296 Supply | | | 15,099,277,695 Demand | | 200,001,401 Shortage=1.3% |

*Statistics for imports of kerosene not separately compiled prior to October, 1922.
†Withdrawn from stock.

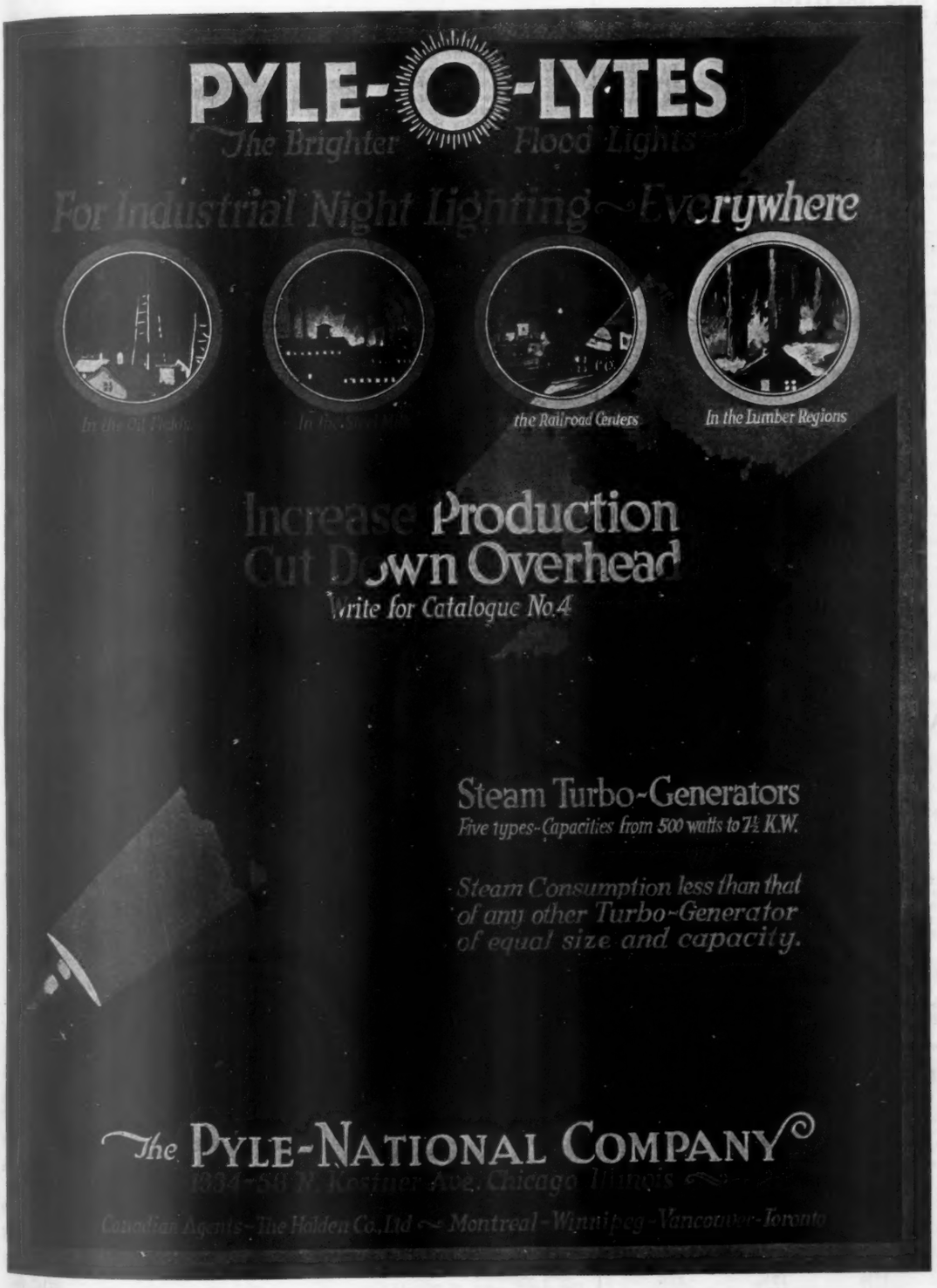
**Table 2—Production, Consumption, Imports, Exports and Stocks of Kerosene from January 1 to September 30, 1924; Also for Same Period of 1923—All Entries in Gallons**

| Month— | Stock First of Mo. | Domestic Production | Imports | Exports | Domestic Consumption | Stock Last of Mo. | Excess of P. & I. Over C. & E. |
|---|---|---|---|---|---|---|---|
| January | 283,195,667 | 217,767,931 | 20,536 | 64,762,389 | 135,956,496 | 300,265,249 | 17,069,582 |
| February | 300,265,249 | 196,826,060 | 24,070 | 73,408,906 | 116,979,472 | 306,727,001 | 6,461,752 |
| March | 306,727,001 | 200,038,627 | 20,835 | 53,036,540 | 123,740,062 | 330,009,861 | 23,282,860 |
| April | 330,009,861 | 203,185,921 | 56,787 | 88,863,901 | 155,423,696 | 288,964,972 | *41,044,889 |
| May | 288,964,972 | 199,992,393 | 47,042 | 79,421,026 | 105,577,655 | 304,005,726 | 15,040,754 |
| June | 304,005,726 | 183,141,014 | 15,675 | 82,438,794 | 111,400,654 | 293,322,967 | *10,682,759 |
| July | 293,322,967 | 194,201,141 | 65,232 | 80,884,470 | 105,547,521 | 301,157,349 | 7,834,382 |
| August | 301,157,349 | 204,106,726 | 6,360 | 67,661,327 | 133,472,878 | 304,136,230 | 2,978,881 |
| September | 304,136,230 | 211,830,320 | 6,590 | 81,680,665 | 136,543,794 | 297,748,681 | *6,387,549 |
| 9 Months | 283,195,667 | 1,811,090,133 | 263,127 | 672,158,018 | 1,124,642,228 | 297,748,681 | |
| | | 1,811,353,260 Supply | | | 1,796,800,246 Demand | | 14,553,014 Excess=8% |
| 1923, 9 Mos. | 281,050,332 | 1,701,855,499 | 275,007 | 629,140,298 | 1,116,016,528 | 238,024,012 | |
| | | 1,702,130,506 Supply | | | 1,745,156,826 Demand | | 43,026,320 Shortage=2.5% |

**Table 1—Production of Kerosene, by Districts, From January 1 to September 30, 1924; Also for the Full Year 1923. All Entries in Gallons**

| Month— | East of Mississippi River: East Coast | Pennsylvania | Indiana | Mid-Continent—Gulf Coast: Okla.-Kan. | Texas | Arkansas-Louisiana | Rocky Mountain | California | Total |
|---|---|---|---|---|---|---|---|---|---|
| January | 51,020,643 | 11,574,081 | 23,577,640 | 26,095,981 | 47,510,464 | 26,367,698 | 6,744,347 | 24,877,077 | 217,767,931 |
| February | 45,010,166 | 11,682,775 | 20,155,286 | 23,951,009 | 41,764,376 | 22,524,338 | 8,350,161 | 23,387,949 | 198,826,060 |
| March | 49,295,418 | 11,762,820 | 20,311,536 | 24,126,434 | 44,587,286 | 21,864,790 | 7,173,251 | 20,917,092 | 200,038,627 |
| April | 49,046,837 | 11,907,949 | 20,383,317 | 25,384,117 | 46,969,851 | 18,561,363 | 7,002,343 | 23,930,144 | 203,185,921 |
| May | 43,799,337 | 12,005,114 | 22,870,356 | 25,931,746 | 41,580,496 | 21,372,656 | 8,406,362 | 24,026,326 | 199,992,393 |
| June | 40,982,220 | 11,806,829 | 19,658,453 | 24,256,485 | 39,907,549 | 16,027,756 | 10,393,705 | 20,108,017 | 183,141,014 |
| July | 43,964,639 | 12,011,910 | 17,512,088 | 26,466,671 | 44,707,933 | 22,980,932 | 6,337,984 | 20,218,984 | 194,201,141 |
| August | 48,918,153 | 11,703,031 | 21,090,727 | 30,345,570 | 40,054,698 | 20,853,243 | 8,706,289 | 22,435,015 | 204,106,726 |
| September | 41,610,435 | 12,654,187 | 20,347,253 | 31,331,553 | 50,911,955 | 22,191,130 | 9,246,847 | 23,536,960 | 211,830,320 |
| Nine months | 413,647,848 | 107,108,696 | 185,906,656 | 237,889,566 | 397,994,608 | 192,743,906 | 72,361,289 | 203,437,564 | 1,811,090,133 |
| Per cent | 22.9 | 5.9 | 10.3 | 13.1 | 22.0 | 10.6 | 4.0 | 11.2 | 100.0 |
| Areal percentage | | 39.1 | | | 45.7 | | 4.0 | 11.2 | 100.0 |
| 1923 | 566,079,099 | 151,462,063 | 216,899,152 | 280,525,957 | 535,784,406 | 255,063,024 | 126,980,692 | 216,140,319 | 2,348,934,712 |
| Year per cent | 24.1 | 6.5 | 9.2 | 11.9 | 22.8 | 10.9 | 5.4 | 9.2 | 100.0 |
| Areal percentage | | 39.8 | | | 44.6 | | 5.4 | 9.2 | 100.0 |

# MORE AND BETTER LIGHT WITH NO TROUBLE AND MAINTENANCE


PYLE-O-LYTES
The Brighter Flood Lights
For Industrial Night Lighting—Everywhere
In the Oil Fields
the Railroad Centers
In the Lumber Regions
Increase Production
Cut Down Overhead
Write for Catalogue No. 4
Steam Turbo-Generators
Five types—Capacities from 500 watts to 7½ K.W.
Steam Consumption less than that of any other Turbo-Generator of equal size and capacity.
The PYLE-NATIONAL COMPANY
1334-58 N. Kostner Ave., Chicago, Illinois
Canadian Agents—The Holden Co., Ltd.—Montreal—Winnipeg—Vancouver—Toronto

**STEAM TURBO-GENERATORS**

Pyle National Steam Turbo-generators are made in five types with capacities ranging from 500 watts to 7½ K. W. Steam consumption less than that of any other turbo-generator of equal size and capacity.

**PYLE-O-LYTES**

You'll find a wide range of types and sizes for every flood-lighting requirement. The cases are built of long-lived cast aluminum alloy that resists the action of all deteriorating agents, and will outwear the ordinary sheet metal units.

**YOU CAN ELIMINATE PAINTING ENTIRELY!**

There are no defects of material or workmanship to be covered up by paint. All parts not of cast aluminum or bronze are "Parkerized" to protect the metal against oxidation.

## Pyle-National Units the Most Satisfactory and Economical

# REFINERY AND CRUDE PRICES

**Quotations on Principal Refined Products and Crude Petroleum Markets in All the American Oil Fields**

## GASOLINE AND NAPHTHA

| CHICAGO DIST. (Based on Group 3)— | Dec. 23 | | Dec. 16 | | Dec. 9 | |
|---|---|---|---|---|---|---|
| 50-52 450 end point (Naphtha) | .07¾ | | .07½ | .07¾ | .07¾ | .08 |
| 56-58 450 end point | .07¾ | .08 | .08 | .08¼ | .08¼ | .08½ |
| 58-60 437 end point (U. S. Motor) | .08 | .08¼ | .08¼ | .08½ | .08¾ | .09 |
| 60-62 400 end point | .09½ | .09¾ | .09¾ | .10 | .10 | .10¼ |
| 64-66 375 end point | .10¾ | .11 | .11 | .11¼ | .11½ | .11¾ |
| 68-70 360 end point | .11¾ | .12 | .11¾ | .12 | .12 | .12¼ |
| **OKLAHOMA (Group 3)—** | | | | | | |
| 50-52 450 end point | .07¼ | .07½ | .07½ | .07¾ | .07½ | .07¾ |
| 56-58 450 end point | .07¾ | .08 | .08¼ | .08½ | .08½ | |
| 58-60 437 end point (U. S. Motor) | .08 | | .08½ | .08¾ | .08¾ | .09 |
| 60-62 400 end point | .09¼ | .09½ | .09½ | .09¾ | .09¾ | .10 |
| 64-66 375 end point | .10¾ | .11 | .11¼ | .11½ | .11½ | |
| 68-70 360 end point | .11½ | .11¾ | .12 | .12¼ | .12 | .12¼ |
| **KANSAS—** | | | | | | |
| 58-60 437 end point (U. S. Motor) | .08 | .08½ | .08½ | .09 | .08¾ | .09 |
| **NORTH TEXAS—** | | | | | | |
| 48-52 450 end point (Naphtha) | .07 | .07¼ | .07¼ | .07½ | .07¼ | .07½ |
| 50-52 440 end point (Naphtha) | .07¼ | .07½ | .07½ | .07¾ | .07½ | .07¾ |
| 56-58 450 end point | .07½ | .08 | .08¼ | .08¾ | .08¾ | .09 |
| 58-60 437 end point (U. S. Motor) | .08 | | .08¼ | .08¾ | .09¼ | |
| 60-62 400 end point | .09 | .09½ | .09½ | .10 | .10 | .10¼ |
| 64-66 390 end point | .10¼ | .10½ | .11 | .11¼ | .11¼ | .11½ |
| 64-66 375 end point | .10¼ | .10¾ | .11¼ | .11½ | .11½ | .11¾ |
| 68-70 360 end point | .11½ | .11¾ | .12 | .12¼ | .12¼ | .12½ |
| **NORTH LOUISIANA—** | | | | | | |
| 56-58 450 end point | .08¾ | .09 | .09 | .09¼ | .09 | .09¼ |
| 58-60 437 end point (U. S. Motor) | .09 | .09¼ | .09¼ | .09½ | .09¼ | .09½ |
| 60-62 400 end point | .10¼ | .10½ | .10½ | .10¾ | .10¾ | .11 |
| 64-66 390 end point | .11¼ | .11½ | .11½ | .11¾ | .11½ | .11¾ |
| 64-66 375 end point | .11¼ | .11½ | .11¾ | .12 | .11¾ | .12 |
| **ARKANSAS—** | | | | | | |
| 58-60 450 end point | .08½ | .08¾ | .09 | .09¼ | .09 | .09¼ |
| 58-60 437 end point (U. S. Motor) | .08¾ | .09 | .09 | .09½ | .09¼ | .09½ |
| 64-66 375 end point | .11 | .11¼ | .11½ | .12 | .11¾ | .12 |
| **ROCKY MOUNTAIN STATES—** | | | | | | |
| *58-60 437 end point (U. S. Motor) | .12 | .12¼ | .12¼ | .12½ | .12¼ | .12½ |
| **PENNSYLVANIA—** | | | | | | |
| 52 Naphtha | .10¾ | | .10¾ | | .10¾ | |
| 54 Naphtha | .10⅞ | | .11 | | .11 | |
| 56 Gasoline | .11 | | .11¼ | | .11¼ | |
| 58 Gasoline | .11¼ | | .11½ | | .11½ | |
| 60 Gasoline | .12¼ | | .12¾ | | .12¾ | |
| 62 Gasoline | .12¾ | | .12½ | | .12½ | |
| 64 Gasoline | .14½ | | .14½ | | .14½ | |
| 66 Gasoline | .15½ | | .15¼ | | .15¼ | |
| 68-70 Gasoline | .17 | | .16½ | | .16½ | |
| **CALIFORNIA—** | | | | | | |
| 54-56 437 end point (U. S. Motor) domestic | .09 | .09½ | .09 | .09½ | .09 | .09½ |

*Colorado points.

## NATURAL GASOLINE

| CHICAGO DIST. (Based on Group 3)— | Dec. 23 | | Dec. 16 | | Dec. 9 | |
|---|---|---|---|---|---|---|
| Grade Double A, 80-87.9 375 e.p., rec. 90% | .08¾ | .09 | .08¾ | .09 | .09 | .09¼ |
| Grade A, 72-79.9, 375 end point, rec. 90% | .08¾ | .09 | .08¾ | .09 | .09 | .09¼ |
| Grade Double B, 84-92, 375 e.p., rec. 85% | .08½ | .08¾ | .08½ | .08¾ | .08¾ | .09 |
| Grade B, 76-83.9, 375 end point, rec. 85% | .08½ | .08¾ | .08½ | .08¾ | .08¾ | .09 |
| Grade C, 80-90, 375 end point, rec. 78% | .08 | .08¼ | .08½ | | .08½ | .08¾ |
| **OKLAHOMA (Group 3)—** | | | | | | |
| Grade Double A, 80-87.9 375 e.p., rec. 90% | .08½ | .08¾ | .08¾ | .09 | .09 | |
| Grade A, 72-79.9, 375 end point, rec. 90% | .08¾ | .09 | .08¾ | .09 | .09 | .09¼ |
| Grade Double B, 84-92, 375 e.p., rec. 85% | .08¼ | .08½ | .08½ | .08¾ | .08¾ | |
| Grade B, 76-83.9, 375 end point, rec. 85% | .08¼ | .08½ | .08½ | .08¾ | .08¾ | |
| Grade C, 80-90, 375 end point, rec. 78% | .07¾ | .08 | .08¼ | .08½ | .08½ | |
| **NORTH TEXAS—** | | | | | | |
| Grade Double A, 80-87.9 375 e.p., rec. 90% | .08½ | | .08¾ | | .09 | |
| Grade A, 72-79.9, 375 end point, rec. 90% | .08½ | | .08¾ | | .09 | |
| Grade Double B, 84-92, 375 e.p., rec. 85% | .08¼ | | .08½ | .08¾ | .08¾ | |
| Grade B, 76-83.9, 375 end point, rec. 85% | .08¼ | | .08¼ | .08½ | .08¾ | |
| Grade C, 80-90, 375 end point, rec. 78% | .07¾ | .08 | .08¼ | | .08½ | |
| **NORTH LOUISIANA—** | | | | | | |
| Grade B, 76-83.9, 375 end point, rec. 85% | .08¼ | .08½ | .08½ | .08¾ | .08½ | .08¾ |
| Grade C, 76-82, 375 end point, rec. 85% | .07¾ | .08 | .08 | .08¼ | .08 | .08¼ |
| **CALIFORNIA—** | | | | | | |
| 68-80 absorption, 360-390 end point | .11½ | .12 | .11¾ | .12 | .11 | .11½ |
| 78-84 compression, 350 end point | .10½ | | .10½ | | .10½ | |

## MOTOR NATURAL GASOLINE (BLEND)

| CHICAGO DIST. (Based on Group 3)— | Dec. 23 | | Dec. 16 | | Dec. 9 | |
|---|---|---|---|---|---|---|
| 60-62 450 end point | .08¼ | .08½ | .08½ | .08¾ | .08½ | .08¾ |
| 64-66 450 end point | .08¼ | .08½ | .08½ | .08¾ | .08½ | .08¾ |
| 68-70 437 end point | .08½ | .08¾ | .08¾ | .09 | .08½ | .09 |
| **OKLAHOMA (Group 3)—** | | | | | | |
| 60-62 450 end point | .08¼ | .08½ | .08½ | .08¾ | .08½ | .08¾ |
| 64-66 437 end point | .08¼ | .08½ | .08½ | .08¾ | .08½ | .08¾ |
| 68-70 430-435 end point | .08½ | | .08¾ | | .08¾ | .09 |
| **NORTH TEXAS—** | | | | | | |
| 58-62 440 end point | .08¼ | .08½ | .08½ | .08¾ | .08½ | .08¾ |
| 58-60 450 end point | .08¼ | .08½ | .08½ | .08¾ | .08½ | .08¾ |
| **PENNSYLVANIA—** | | | | | | |
| *60-62 | .12½ | | .12½ | | .12½ | |
| *64-66 | .12½ | | .12½ | | .12½ | |
| *66-68 | .12½ | | .12½ | | .12½ | |
| *68-70 | .12½ | | .12½ | | .12½ | |

*At Sistersville, W. Va.

## BURNING OIL

| CHICAGO DIST. (Based on Group 3)— | Dec. 23 | | Dec. 16 | | Dec. 9 | |
|---|---|---|---|---|---|---|
| 41-43 water white Kerosene | .04¼ | .04⅝ | .04⅝ | .04⅝ | .04⅝ | .04½ |
| 42-44 water white Kerosene | .04½ | .04⅝ | .04½ | .04¾ | .04⅝ | .04¾ |
| **KANSAS—** | | | | | | |
| 41-43 water white Kerosene | .04⅜ | .04⅝ | .04⅝ | .04⅞ | .04⅝ | .04⅞ |
| **NORTH LOUISIANA—** | | | | | | |
| 41-43 prime white Kerosene | .05 | .05¼ | .05 | .05¼ | .05 | .05¼ |
| 42-44 water white Kerosene | .05¼ | .05½ | .05¼ | .05½ | .05¼ | .05½ |
| **ROCKY MOUNTAIN STATES—** | | | | | | |
| *40-42 water white Kerosene | .07½ | .07¾ | .07½ | .07¾ | .07½ | .07¾ |
| **NORTH TEXAS—** | | | | | | |
| 41-43 water white Kerosene | .04¼ | .04½ | .04¼ | .04½ | .04¼ | .04½ |
| 41-43 prime white Kerosene | .04 | .04¼ | .04 | .04¼ | .04 | .04¼ |
| 40-42 prime white Kerosene | .04 | .04¼ | .04 | .04¼ | .04 | .04¼ |
| 42-44 water white Kerosene | .04½ | .04⅝ | .04½ | .04⅝ | .04½ | .04⅝ |
| **OKLAHOMA (Group 3)—** | | | | | | |
| 41-43 water white Kerosene | .04¼ | .04½ | .04⅜ | .04⅝ | .04⅜ | .04⅝ |
| 42-44 water white Kerosene | .04½ | .04⅝ | .04½ | .04⅝ | .04½ | .04⅝ |
| 40-41 prime white Kerosene | .04 | .04⅛ | | | | |
| **ARKANSAS—** | | | | | | |
| 41-43 water white Kerosene | .04¾ | .05 | .05 | .05¼ | .05¼ | .05½ |
| 42-44 water white Kerosene | .05 | .05¼ | .05¼ | .05½ | .05½ | .05⅝ |
| **PENNSYLVANIA—** | | | | | | |
| 43 Kerosene prime white | .07 | | .07 | | .07 | |
| 45 Kerosene water white | .07½ | | .07½ | | .07½ | |
| 46 Kerosene water white | .08¼ | | .08¼ | | .08¼ | |
| 47 Kerosene water white | .08¼ | | .08¼ | | .08¼ | |
| 34 Neutral | .09 | | .09 | | .09 | |
| 34 Sundebloomed Neutral | .07¾ | | .07¾ | | .07¾ | |
| 36 Miners' Neutral | .06½ | | .06½ | | .06½ | |
| 300 Mineral Seal | .07½ | | .07½ | | .07½ | |
| **CALIFORNIA—** | | | | | | |
| 40-42 water white (high burning test) | .07½ | .08 | .07½ | .08 | .07½ | .08 |
| Engine distillate, 43-45 445 end point | .06 | .06½ | .06 | .06½ | .06 | .06½ |
| Engine distillate, 42-44 480 end point | .05½ | .05¾ | .05½ | .05¾ | .05½ | .05¾ |

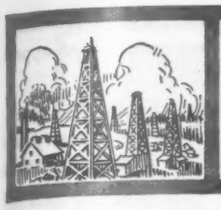
*Colorado points.

## FUEL OILS

| CHICAGO DIST. (Based on Group 3)— | Dec. 23 | | Dec. 16 | | Dec. 9 | |
|---|---|---|---|---|---|---|
| 24-26 Fuel Oil (sellers' cars, Group 3) | 1.15 | 1.20 | 1.15 | 1.20 | 1.12 | 1.17 |
| 22-24 (El Dorado) | 1.20 | 1.25 | 1.20 | 1.25 | 1.15 | 1.20 |
| 18-20 (Smackover) | 1.12 | 1.15 | 1.10 | 1.15 | 1.12 | 1.17 |
| 32-36 Gas Oil | .03¼ | .03½ | .03¼ | .03½ | .03 | .03¼ |
| 36-38 Distillate | .03½ | .03¾ | .03⅜ | .03⅝ | .03¼ | .03½ |
| 38-40 Straw distillate | .03¾ | .04 | .03¾ | .04 | .03½ | .03¾ |
| **KANSAS—** | | | | | | |
| 24-26 Fuel Oil | 1.25 | 1.30 | 1.25 | 1.30 | 1.20 | 1.25 |
| 32-36 Gas Oil | .03¼ | .03½ | .03¼ | .03⅜ | .03¼ | .03⅜ |
| 38-40 Distillate | .03⅞ | .04 | .03¾ | .04 | .03¾ | .04 |
| **OKLAHOMA (Group 3)—** | | | | | | |
| 22-26 Fuel Oil (sellers' cars) | 1.15 | 1.20 | 1.15 | 1.20 | 1.15 | 1.20 |
| 24-26 Fuel Oil (buyers' cars) | 1.15 | 1.20 | 1.15 | 1.20 | 1.15 | 1.20 |
| 24-26 Fuel Oil (sellers' cars) | 1.17½ | 1.20 | 1.17½ | 1.20 | 1.17½ | 1.20 |
| 28-30 Fuel Oil (sellers' cars) | 1.25 | 1.30 | 1.25 | 1.30 | 1.25 | 1.30 |
| 32-36 Gas Oil | .03¼ | .03⅜ | .03⅛ | .03¼ | .03⅛ | .03¼ |
| 38-40 Straw distillate | .03¾ | .04 | .03⅝ | .03¾ | .03⅝ | .03¾ |
| **NORTH TEXAS—** | | | | | | |
| 24-26 Fuel Oil (sellers' cars) | 1.15 | | 1.15 | | 1.25 | 1.20 |
| 26-30 Fuel Oil | 1.20 | 1.25 | 1.20 | 1.25 | 1.20 | 1.25 |
| 32-36 Gas Oil | .03¼ | | .03⅛ | .03¼ | .03⅛ | .03¼ |
| 36-38 Gas Oil | .03½ | .03⅝ | .03¼ | .03½ | .03¼ | .03½ |
| 38-40 Straw distillate | .03⅝ | .03¾ | .03½ | .03¾ | .03½ | .03⅝ |
| **NORTH LOUISIANA—** | | | | | | |
| 18-20 Fuel Oil | 1.10 | 1.15 | 1.10 | 1.15 | 1.10 | 1.15 |
| 24-26 Fuel Oil | 1.15 | 1.20 | 1.15 | | 1.15 | 1.20 |
| 32-36 Gas Oil | .03¼ | .03½ | .03¼ | .03½ | .03¼ | .03½ |
| **ARKANSAS—** | | | | | | |
| 38-40 Distillate | .04 | | .03¾ | .04 | .03¾ | .04 |
| 32-36 Gas Oil | .03⅜ | .03½ | .03¼ | .03⅜ | .03¼ | .03⅜ |
| 22-26 Refinery Fuel Oil | 1.15 | 1.20 | 1.10 | 1.15 | 1.10 | 1.15 |
| **GULF COAST (South Texas)—** | | | | | | |
| Gas Oil | .04½ | .05 | .04½ | .05 | .04½ | .05 |
| Fuel Oil | 1.60 | 1.70 | 1.60 | 1.70 | 1.60 | 1.70 |
| **PENNSYLVANIA—** | | | | | | |
| 30-34 Fuel Oil | .06 | | .06 | | .06 | |
| 36-40 Fuel Oil | .06½ | | .06½ | | .06½ | |
| **CALIFORNIA—** | | | | | | |
| 33-36 Distillate | .04 | .04½ | .04 | .04½ | .04 | .04½ |
| 27-33 Distillate | .03¾ | .04 | .03¾ | .04 | .03¾ | .04 |
| 15-20 Fuel Oil (at tide water) | 1.40 | | 1.40 | | 1.40 | |

## NEUTRAL OILS

| OKLAHOMA (Group 3)— | Dec. 23 | | Dec. 16 | | Dec. 9 | |
|---|---|---|---|---|---|---|
| 70-80 is., 2½ color, 20-25 cold test | .04 | .04½ | .04 | .04½ | .04 | .04½ |
| 100 vis., 2 color, 20-25 cold test | .04½ | .05 | .04½ | .05 | .04½ | .05 |
| 100 vis., 3 color, 20-25 cold test | .04 | .04½ | .04 | .04½ | .04 | .04½ |
| 150 vis., 3 color, 20-25 cold test | .07 | .07½ | .07 | .07½ | .07 | .07½ |
| 150 vis., 4 color, 20-25 cold test | .06½ | .07 | .06½ | .07 | .06½ | .07 |
| 180 vis., 4 color, 23-28 cold test | .08 | .08½ | .08 | .08½ | .08 | .08½ |
| 180 vis., 3 color, 23-28 cold test | .08½ | .09 | .08½ | .09 | .08½ | .09 |
| 200 vis., 3 color, 23-28 cold test | .10 | .10½ | .10 | .10½ | .10 | .10½ |
| 200 vis., 4 color, 23-28 cold test | .09½ | .10 | .09½ | .10 | .09½ | .10 |
| 220 vis., 3 color, 25-30 cold test | .11½ | .12 | .11½ | .12 | .11½ | .12 |
| 220 vis., 4 color, 25-30 cold test | .10¾ | .11½ | .10¾ | .11½ | .10¾ | .11½ |
| 240 vis., 3 color, 25-30 cold test | .13½ | .14 | .13½ | .14 | .13½ | .14 |
| 240 vis., 4 color, 25-30 cold test | .12¾ | .13¼ | .12¾ | .13¼ | .12¾ | .13¼ |
| 280 vis., 3 color, 25-30 cold test | .16½ | .17 | .16½ | .17 | .16½ | .17 |
| 280 vis., 4 color, 25-30 cold test | .15 | .15½ | .15 | .15½ | .15 | .15½ |
| Red Neutrals: | | | | | | |
| 180 vis., 5 color, 23-28 cold test | .07½ | .08 | .07½ | .08 | .07½ | .08 |
| 180 vis., 6 color, 23-28 cold test | .12¼ | .12¾ | .12¼ | .12¾ | .12¼ | .12¾ |
| 200 vis., 5 color, 23-28 cold test | .09 | .09½ | .09 | .09½ | .09 | .09½ |
| 200 vis., 6 color, 23-28 cold test | .13 | .13½ | .13 | .13½ | .13 | .13½ |
| 220 vis., 5 color, 25-30 cold test | .10 | .10½ | .10 | .10½ | .10 | .10½ |
| 220 vis., 6 color, 25-30 cold test | .14¼ | .14¾ | .14¼ | .14¾ | .14¼ | .14¾ |
| 240 vis., 5 color, 25-30 cold test | .12 | .12½ | .12 | .12½ | .12 | .12½ |
| 240 vis., 6 color, 25-30 cold test | .15¼ | .15¾ | .15¼ | .15¾ | .15¼ | .15¾ |
| 280 vis., 5 color, 25-30 cold test | .13½ | .14 | .13½ | .14 | .13½ | .14 |
| 180-200 vis., S. R. green, 40-45 cold test | .07½ | .08 | .07½ | .08 | .07½ | .07¾ |
| 190-200 dark green, 40-45 cold test | .06½ | .07 | .06½ | .07 | .06½ | .07 |



# REFINERY AND CRUDE PRICES

## Quotations on Principal Refined Products and Crude Petroleum Markets in All the American Oil Fields

| | | | | | | |
|---|---|---|---|---|---|---|
| 170-190 dark green, 40-45 cold test | .06 | .06½ | .06 | .06½ | .06 | .06½ |
| 600, E filtered | .20 | .21 | .20 | .21 | .20 | .21 |
| 190-200 vis. @ 210 "D" Bright Stock | .34 | | .34 | | .34 | |
| 200-210 vis. @ 210 "E" Bright Stock | .29 | | .29 | | .29 | |
| 150 vis. @ 210 "D" Bright Stock | .30 | | .30 | | .30 | |
| 150 vis. @ 210 "E" Bright Stock | .26 | | .26 | | .26 | |
| Waxes: | | | | | | |
| 124-126 White Crude Scale Wax | .05 | .05⅛ | .05 | .05⅛ | .04⅞ | .05⅛ |
| PENNSYLVANIA— | | | | | | |
| 150, 3 color | .21½ | | .22 | | .22¼ | |
| 180, 3 color | .24 | | .24 | | .23½ | |
| 200, 3 color | .25½ | | .25½ | | .25 | |
| 220, 3 color | .28 | | .28 | | .27 | |
| 600, steam refined | .22 | | .22 | | .22½ | |
| 635, steam refined | .25½ | | .25 | | .25 | |
| 650, steam refined | .28¾ | | .27¼ | | .27¼ | |
| 600, Pennsylvania flash | .34 | | .32 | | .32 | |
| 630, Pennsylvania flash | .39 | | .38 | | .38 | |
| *550, E filtered | .23½ | | .23½ | | .23½ | |
| *600, E filtered | .25 | | .25 | | .25 | |
| 600, E filtered | .23¾ | | .23¾ | | .23½ | |
| 600, D filtered | .32 | | .32 | | .32 | |
| 550, E filtered | .22 | | .22 | | .20 | |
| 550, D filtered | .25 | | .25 | | .24 | |
| Pennsylvania Bright Stock | .40½ | | .38½ | | .38½ | |
| †122-124 White Crude Scale Wax | .05½ | | .05½ | | .05⅝ | |
| *122-124 White Crude Scale Wax | .05½ | | .05½ | | .05½ | |

*At Warren, Pa. †At New York City.

| | | | | | | |
|---|---|---|---|---|---|---|
| GULF COAST (South Texas)— | | | | | | |
| Zero Black | .06½ | .07 | .06½ | .07 | .06½ | .07 |
| No. 2 color, 100 vis., pale oil | .09½ | .10½ | .09½ | .10½ | .09½ | .10½ |
| No. 2 color, 150 vis., pale oil | .11½ | .12½ | .11½ | .12½ | .11½ | .12½ |
| No. 3 color, 200 vis., pale oil | .13½ | .14½ | .13½ | .14½ | .13½ | .14½ |
| No. 3 color, 300 vis., pale oil | .16 | .17 | .16 | .17 | .16 | .17 |
| No. 3½ color, 500 vis., pale oil | .18 | .19 | .18 | .19 | .18 | .19 |
| No. 3½ color, 750 vis., pale oil | .23½ | .24½ | .23½ | .24½ | .23½ | .24½ |
| No. 4½ color, 1200 vis., pale oil | .25½ | .26½ | .25½ | .26½ | .25½ | .26½ |
| No. 4½ color, 2000 vis., pale oil | .29 | .30 | .29 | .30 | .29 | .30 |
| No. 2 color, 150 vis., pale filtered | .20½ | | .20½ | | .20½ | |
| No. 2 plus color, 200 vis., pale filtered | .22 | | .22 | | .22 | |
| No. 2½ minus color, 300 vis., pale filtered | .25½ | | .25½ | | .25½ | |
| No. 2½ color, 500 vis., pale filtered | .29½ | | .29½ | | .29½ | |
| No. 2½ color, 750 vis., filtered | .39½ | | .39½ | | .39½ | |
| No. 5 to 6 color, 200 vis., red oil | .12 | .13 | .12 | .13 | .12 | .13 |
| No. 5 to 6 color, 300 vis., red oil | .14½ | .15½ | .14½ | .15½ | .14½ | .15½ |
| No. 5 to 6 color, 500 vis., red oil | .16 | .17 | .16 | .17 | .16 | .17 |
| No. 5 to 6 color, 750 vis., red oil | .20½ | .21½ | .20½ | .21½ | .20½ | .21½ |
| CALIFORNIA— | | | | | | |
| 200 vis., 2½-3 color | .15 | .16 | .15 | .16 | .15 | .16 |
| 300 vis., 2 -4 color | .15 | .17 | .15 | .17 | .15 | .17 |
| 350 vis., 3½-4 color | .17½ | .18½ | .17½ | .18½ | .17½ | .18½ |
| 400 vis., 4 -4½ color | .19 | .20 | .19 | .20 | .19 | .20 |
| Red Neutrals: | | | | | | |
| 200 vis., 4½-5 color | .13 | .14 | .13 | .14 | .13 | .14 |
| 300 vis., 5 -6 color | .14 | .13 | .14 | .16 | .14 | .16 |
| 400 vis., 5 -6 color | .16 | .17 | .16 | .17 | .16 | .17 |
| 500 vis., 6 -6½ color | .17 | .18 | .17 | .18 | .17 | .18 |
| 600 vis., 6½ plus color | .18 | .19 | .18 | .19 | .18 | .19 |

Note: Bright stocks are not manufactured commercially on the Pacific Coast.

## NEW YORK DOMESTIC MARKET

| Bayonne Refinery Prices: | Dec. 23 | Dec. 16 | Dec. 9 |
|---|---|---|---|
| U. S. Motor Gasoline, 58-60 437 | .13¼ | .13 | .13 |
| *Bunker Oil, 14-16 Be. | 1.80 | 1.80 | 1.80 |
| Diesel Oil, 28-30 Be. | 2.10 | 2.10 | 2.00 |
| Furnace Oil, New York City | .10 | .10 | .10 |
| Gas Oil, 32-36 Be. | .05¼ | .05¼ | .05 |
| 41-43 Kerosene prime white | .08½ | .08½ | .08½ |

*Lighterage, 6.5c a barrel extra.

## NEW YORK EXPORT PRICES

| Motor Gasoline: | Dec. 23 | Dec. 16 | Dec. 9 |
|---|---|---|---|
| 58-60 Be. gravity, in cases | .26.65 | .26.65 | .26.65 |
| U. S. Navy, in bulk | .12½ | .12½ | .12½ |
| Naphtha: | | | |
| 60° F., 59-61 Be. gravity, in bulk | .14¾ | .14¾ | .14¾ |
| 60° F., 63-66 Be. gravity, in bulk | .16 | .16 | .16 |
| 60° F., 66-68 Be. gravity, in bulk | .17½ | .17½ | .17½ |
| Kerosene: | | | |
| Standard white, 40-42 Be. grav., in bulk | .06½ | .06½ | .06½ |
| Standard white, 40-42 Be. grav., in barrels | .13½ | .13½ | .13½ |
| Standard white, 40-42 Be. grav., in cases | .16.9 | .16.9 | .16.9 |
| Water white, 42-44 Be. grav., in bulk | .07½ | .07½ | .07½ |
| Water white, 42-44 Be. grav., in barrels | .14½ | .14½ | .14½ |
| Water white, 42-44 Be. grav., in cases | .17.9 | .17.9 | .17.9 |
| †Lubricating Oils: | | | |
| Cylinder Stock, extra light filtered, 600, in barrels | .46½ | .46½ | .44½ |
| Cylinder Stock, light filtered, 600, barrels | .04½ | .40½ | .38½ |
| No. 1 white neutral, .878 spec. grav. | .43 | .43 | .43 |
| No. 1 Summer Black, .895 spec. grav. | .18 | .18 | .12 |
| No. 5 Bright Stock, .897 spec. grav. | .50½ | .50½ | .48½ |
| Special "A" red oil, .897 spec. grav., 170 vis. | .21 | .21 | .21 |
| No. 2 red oil, .903 spec. grav., 212 vis. | .22 | .22 | .22 |
| No. 1 red oil, .905 spec. grav. 265 vis. | .23 | .23 | .23 |
| Polar red oil, .906 spec. grav., 295 vis. | .25 | .25 | .25 |
| Pale oil, "25", .899 spec. grav. | .20½ | .20½ | .19½ |
| Pale oil, "28", .892 spec. grav. | .16 | .16 | .16 |
| Paraffin Wax: | | | |
| 120-122 a.m.p., per lb. | .06 | .06 | .06 |
| 125-127 a.m.p., per lb. | .06½ | .06½ | .06½ |
| 130-132 a.m.p., per lb. | .06½ | .06½ | .06½ |
| 135-137 a.m.p., per lb. | .07½ | .07½ | .07½ |

†All lube prices in barrels.

## LOS ANGELES EXPORT MARKET

| | Dec. 23 | | Dec. 16 | | Dec. 9 | |
|---|---|---|---|---|---|---|
| Kerosene water white | .05 | .05½ | .05 | .05½ | .05 | .05½ |
| U. S. Motor gasoline, 54-56, 437 end point | .08½ | .09 | .08½ | .09 | .08½ | .09 |

## CRUDE OIL PRICES

### Crude Oil Prices

December 19—Humble Oil & Refining Co. adopted Prairie Oil & Gas Co. schedule for Ranger, Tex., field. Same company posted a price of $1.25 for Wortham, Tex., crude.

**Arkansas and North Louisiana**

| | |
|---|---|
| Caddo, 38° and above | $1.35 |
| 35° to 37.9° | 1.25 |
| 32° to 34.9° | 1.15 |
| Below 32° | 1.00 |
| Homer, 35° and above | 1.10 |
| 33° to 34.9° | 1.00 |
| 31° to 32.9° | .90 |
| Below 31° | .75 |
| Haynesville, 33° and above | 1.00 |
| Below 33° | .90 |
| El Dorado, 33° and above | 1.00 |
| Below 33° | .90 |
| Bull Bayou, 38° and above | 1.15 |
| 35° to 37.9° | 1.00 |
| 32° to 34.9° | .85 |
| Cotton Valley | .95 |
| De Soto | 1.20 |
| Crichton | 1.00 |
| Bellevue | 1.35 |
| Smackover, 25° and above | .95 |
| Below 25° | .85 |
| *Stephens, Ark.: | |
| 26° and above | .90 |
| Below 26° | .70 |

*Posted by Atlantic Oil Producing Co.

**Wyoming and Montana**

| | |
|---|---|
| Rock Creek (Wyo.) | $ .95 |
| Salt Creek | .85 |
| Big Muddy | .75 |
| Mule Creek | .60 |
| Grass Creek (light) | 1.20 |
| Elk Basin | 1.20 |
| Lance Creek | 1.15 |
| Osage | 1.15 |
| Cat Creek (Mont.) | 1.20 |
| Sunburst (Mont.) | .90 |
| Lost Soldier | .78 |
| Greybull and Torchlight | 1.15 |
| Hamilton Dome | .80 |

Lander based on contracts covering entire production of fields.

**Oklahoma, Kansas, North and Central Texas**

Prairie Oil & Gas Co. and other major purchasing companies, except as noted:

| | |
|---|---|
| Below 30° | $ .75 |
| 30° to 32.9° | .90 |
| 33° to 35.9° | 1.10 |
| 36° and above | 1.25 |
| Magnolia Petroleum Co.: | |
| *33° and above | 1.25 |
| Corsicana Light | 1.25 |
| Corsicana Heavy | .90 |
| Mexia | 1.25 |
| Powell | 1.25 |
| Thrall | 1.00 |

*Below 33° gravity, same as Prairie.

Prairie Oil & Gas Co. buying crude in new Wortham Pool at gravity basis.

**Humble Oil & Refining Co.**

| Ranger: | |
|---|---|
| Below 30° | $ .75 |
| 30° to 32.9° | .90 |
| 33° to 35.9° | 1.10 |
| 36° and above | 1.25 |
| Mexia | 1.25 |
| Powell | 1.25 |
| Currie | 1.25 |
| Richland | 1.25 |
| Wortham | 1.25 |

*Wichita-Archer Counties and Moran, same as Prairie.

**Gulf Coast**

| | |
|---|---|
| †Grade "A" | $1.50 |
| †Grade "B" | 1.25 |
| Luling | .90 |
| Laredo (Magnolia Petroleum Co.) | .75 |
| Rockdale-Minerva (Milam County) | 1.25 |
| Calliham (Live Oak-McMullen) | 1.53 |
| *High Island | .85 |

*Posted by Sun Co.

†Following are the specifications for Gulf Coast Crudes as posted by Humble Oil & Refining Co.:

Grade "A"—Viscosity—Not less than 100 seconds at 100° F. Saybolt sulphur—Not over .4 per cent Baume gravity. Not over 25 at 60° F.

Cold test of distillates having viscosity of 1,000 seconds at 100° F., A. S. T. M. method.

Grade "B"—Embraces all coastal crude which does not meet the test for "A" Grade crude.

***Somerset**

| | |
|---|---|
| 26° and above | .95 |
| Below 26° | .85 |

*Posted by Grayburg Oil Co.

**California**

| | |
|---|---|
| 14° to 19.9° | $1.00 |
| 20° to 20.9° | 1.01 |
| 21° to 21.9° | 1.02 |
| 22° to 22.9° | 1.03 |
| 23° to 23.9° | 1.05 |
| 24° to 24.9° | 1.07 |
| 25° to 25.9° | 1.10 |
| 26° to 26.9° | 1.13 |
| 27° to 27.9° | 1.16 |
| 28° to 28.9° | 1.19 |
| 29° to 29.9° | 1.22 |
| 30° to 30.9° | 1.25 |
| 31° to 31.9° | 1.28 |
| 32° to 32.9° | 1.31 |
| 33° to 33.9° | 1.34 |
| 34° to 34.9° | 1.37 |
| 35° to 35.9° | 1.40 |
| 36° to 36.9° | 1.46 |
| 37° to 37.9° | 1.52 |
| 38° to 38.9° | 1.58 |
| 39° to 39.9° | 1.64 |
| 40° to 40.9° | 1.70 |
| 41° to 41.9° | 1.76 |
| 42° and above | 1.82 |

**Eastern States**

| | |
|---|---|
| Penna Grade Oil in New York Transit Lines | $2.85 |
| Bradford District Oil in National Transit Lines | 2.85 |
| Penna Grade Oil in National Transit Lines | 2.75 |
| Penna Grade Oil in Southwest Pa. Pipe Line Lines | 2.75 |
| Penna Grade Oil in Eureka Pipe Line Lines | 2.75 |
| Penna Grade Oil in Buckeye Pipe Line Lines | 2.75 |
| Cabell Grade Oil in Eureka Pipe Line Lines | 1.45 |
| Corning Grade Oil in Buckeye Pipe Line Lines | 1.50 |
| Somerset Medium Oil in Cumberland Pipe Line Lines | 1.55 |
| Somerset Light Oil in Cumberland Pipe Line Lines | 1.70 |
| Ragland Grade Oil in Cumberland Pipe Line Lines | .90 |
| Lima | 1.58 |
| Wooster | 1.40 |
| Illinois | 1.37 |
| Indiana | 1.38 |
| Princeton | 1.37 |
| Plymouth | .75 |
| Waterloo | .75 |
| †Oil Springs, Canada | 2.30 |
| †Petrolia, Canada | 2.23 |
| *Western Kentucky, 36° and above | 1.30 |
| *Western Kentucky, 33° to 35.9° | 1.20 |
| *Western Kentucky, 32.9° and below | 1.10 |
| Cumberland, Barren and Monroe Counties, (Kentucky) (Paragon Development Co.) | 1.70 |

†Plus Government bounty of 26½c.

*Prices for Warren, Allen, Hancock, and Ohio Counties by Indiana Refining Co. Prices for Warren and Simpson Counties by Paragon Development Co., same as Indian Refining Co.

**Mexican Crude**

| | |
|---|---|
| *Tuxpam (f.o.b. Mexican ports) | $1.15 |
| †Panuco (f.o.b. Mexican ports) | .95 |
| Tuxpam (New York) | 1.72 |
| Panuco (New York) | 1.38 |

*Plus 32.33c. †Plus 17.64c tax. Prices based on contracts.

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## THE SEASON'S GREETING

Throughout the oil fields of the world today American drillers will exchange the season's greetings and nowhere will the "Same to You and Many of Them!" be so heartily spoken as between the men in the oil fraternity.

There is a sense and practice of comradeship between oil men not equaled in any other industry, born, perhaps of the sharing of common hazards and of the intimacies of many meetings in widely scattered places remote from the distraction of the crowd.

Whatever the reason, there is no doubt of the fact. Oil men may and do have their differences of opinion, their keen rivalries, but when they come together they are, as a type, fine, upstanding men, men of the open, frank, courageous and doggedly determined not to be downed.

To such men this season of good will especially appeals. They have made fellowship a habit. They know what it means because they live it. So Christmas in the outposts of oildom has a significance of its own.

The wish is a "Merry Christmas!" but the festival is something more than a feast and a merrymaking, rightly apprehended. The keynote, after all, is the inspiration to thoughts of good will, of tolerance and understanding towards others, of comprehension of common service and effort.

That is the moral principle upon which our civilization has been built, of helping one another up, instead of pulling one another down as in the days of barbarism. Applied to our everyday lives in increasing measure it will make for the greater welfare of all. This is the lesson of Christmas, the true translation of the greetings of the season which The Oil and Gas Journal tenders to the oil industry wherever found.

## THE PUBLICITY PROGRAM

The movement to have the oil industry put its case before the public, which had its inception in these columns 18 months ago, has borne fruit.

The appointment by the American Petroleum Institute of a public relations committee signalized its approval by the industry.

That approval followed the demonstration in the November elections that the great mass of the people responded to an appeal to their fairmindedness and intelligence.

Despite the most concerted campaign of radicalism ever attempted in this country, in which hostility to the oil industry was featured on every occasion, enough of the public had been reached by the facts about the oil business to contribute materially to the defeat of the more notorious of the candidates.

Nevertheless, the battle is but begun. Lesser officials and politicians in the various States may still be expected to use the oil business as a target. Fortunately, the moment is opportune to carry forward the work of setting the industry's case before the public. The people are in a receptive mood. They have shown their distrust of demagogy. They are willing to hear the other side.

The success which attended the use of the facts in "The Oil Industry's Answer" in oil company advertising, in public addresses by oil men and in the distribution of pamphlets direct to the industry's customers at filling stations, as originally suggested in The Oil and Gas Journal, justified the movement.

Chairman Edward Prizer and the subcommittee placed in charge of the publicity program of the Institute, have wisely decided to continue that method. No propaganda of any kind will be permitted; just the plain truth about the hazards, operations and magnitude of the oil business and what it means in everyday relations to the public at large and individually.

"The whole process," Chairman Prizer says, "is simply to tell as well as we are able the underlying facts and truths. There is no purpose to fool the public. It is not to sell more oil. It is no money-making scheme."

Approaching the task in that spirit and with that understanding and properly carried out, the education of the public should be easy, particularly with the people in a favorable frame of mind.

One thing should, however, be kept constantly in view and impressed upon those charged with the actual preparation of the publicity matter. They should be instructed to study first and continually what the public wants to know about the oil business; what the popular prejudices against the industry are; and to frame their answers to satisfy the legitimate curiosity of the people.

Too many of the publicity bureaus of other industries are seemingly conducted with an eye solely to pleasing the immediate employing officials, forgetting altogether the prime purpose of informing the public on points the people are really thinking about. No wonder that so much publicity of that sort finds its way into waste-baskets unread by those for whom it was intended simply because it has no interest for them.

This will be a grave danger that the Institute's committee will do well to avoid carefully. If the publicity matter reads like a technical report or the address of a managing director to his fellow directors, it will fail in its invitation to popular reading. If anyone doubts this, let him apply it to himself in the case of publicity from some other industry.

The first essential in publicity is to arrest attention, the second to arouse interest, and the third to hold that interest long enough to get the message across. To do this the matter must be prepared, as the matter from "The Oil Industry's Answer" was prepared, with the point of view of the man in the street constantly in mind.

To avoid anything savoring of propaganda is, of course, imperative. But to avoid equally everything savoring of dogmatic assertion is no less necessary. The purpose should be to show the people, rather than merely to "tell" them. They must be convinced, not commanded.

These suggestions are offered with a view of helpfulness to the American Petroleum Institute committee and are based upon the successful campaign resulting from the compilation of "The Oil Industry's Answer," by The Oil and Gas Journal, a movement that, despite the original doubt or indifference of some, has just culminated in the taking over of the work by the Institute.

# Gulf Coast Oil Operations

By P. L. McGreal

**Five wells completed in Jim Hogg County during past week with initial production of 3,700 bbls. Field there is most active spot in Southwest Texas at present time. Weather conditions tie up operations in Coastal Pools. Output shows increase of approximately 1,000 bbls.**

HOUSTON, Texas, Dec. 22.—Jim Hogg County in the Thompsonville district, occupied the center of the stage this week, with five wells completed, having 3,400 bbls. new production. One boiled salt water and will be deepened. This gives the Henne, Winch and Fariss section a daily average output of 3,700 bbls. per day. Three tests have set casing and will drill in next week. It is the most active spot in the southwest counties with more wells scheduled to start after the new year. Thus far, the completions are bunched together, being practically offset wells and therefore the area of the new district has not been determined, but it is the opinion of operators it will be like the Webb County Pools. These are localized and cover small areas.

Completions in the Gulf Coast Pools during the week totaled 18, of which 8 were worked over holes. The new production is 1,220 bbls. with one dry hole, and two saltwater wells. Eight wells are bailing at the close of the week.

The most severe snow and sleet storm in 30 years hit the Central Plains Friday morning and caused a suspension of operations in the pools. Field workers in the semi-tropical south Texas and Louisiana districts are unused to extremely cold weather and desert the open derricks and drilling rigs to seek shelter in the field towns. It was the first time many of these field men had seen snow.

The estimated daily average gross production in the Gulf Coast Pools is placed at 75,605 bbls., compared with an estimate of 77,563 bbls. last week. The estimate for the Southwest fields is placed at 46,340 bbls. compared with 43,385 bbls. last week. The estimate for each district is as follows:

| District— | Gross Bbls. |
|---|---|
| Batson | 1,645 |
| Blue Ridge | 710 |
| Barber Hill | 135 |
| Big Creek | 800 |
| Dayton | 85 |
| Damon Mound | 1,300 |
| Edgerly (La.) | 515 |
| Goose Creek | 9,775 |
| Humble | 5,000 |
| Hull | 15,000 |
| Jennings (La.) | 900 |
| Markham | 180 |
| Orange | 12,500 |
| Pierce Junction | 650 |
| Spindletop | 1,210 |
| Saratoga | 1,485 |
| Sour Lake | 3,995 |
| Vinton (La.*) | 5,875 |
| Welsh-Anse La Bute | 85 |
| West Columbia | 12,250 |
| Miscellaneous | 1,010 |
| Total | 75,605 |

*Vacuum Oil Co.'s well near Lockport (La.), rated at 895 bbls. Balance scattered between High Island, Hockley, Big Hill and Nacogdoches.

| Southwest Fields— | |
|---|---|
| Luling | 34,650 |
| Laredo | 4,400 |
| Somerset | 2,590 |
| Calliham | 535 |
| Rockdale-Minerva | 465 |
| *Jim Hogg County | 3,700 |
| Total | 46,340 |

*3,400 bbls. of the total developed during the week.

| | |
|---|---|
| Grand Total for week | 121,945 |
| Grand Total, last week | 120,948 |
| Increase, bbls. | 997 |

Gulf Coast Pools decreased 1,958 bbls.
Southwest Fields increased 2,955 bbls.

### Jim Hogg County

Early in the week, the Magnolia Petroleum Co.'s No. 1 Thompson, located 300 feet east from Henne, Winch and Farris' No. 3 Martinez, the discovery well, came in, flowing 1,200 bbls. initially, but sanded and was restored. It is now averaging 500 bbls. per day. It was followed by O. W. Killiam's No. 1 Block 16, flowing 600 bbls., located 1,500 feet north of the discovery well. Henne, Winch and Fariss' No. 5, located 300 feet south of No. 3, came in making 300 bbls. by heads. Late in the week, the Witherspoon Oil Co.'s No. 2, located 300 feet northeast from No. 3 Henne, was finished and made an initial flow of 2,000 bbls. per day. All got the sand at about the same depth as No. 3 Henne, or from 1,995 to 2,005 feet. The original well had 12 feet of sand and the others average about the same thickness. It is under 18 inches of cap rock. Henne, Winch and Fariss' No. 6 is drilling in. The dip is toward the east, as is evidenced from the Witherspoon Oil Co.'s No. 1, Block 16, located 1,800 feet east, which got the cap rock at 2,045 feet and showed some saltwater. It is being drilled deeper.

The Shasta Oil Co.'s No. 1 Holbein, 1 mile east of the original producer, is setting a liner, after setting 4½-inch to shut off water. The depth of the hole is 2,345 feet. The Plateau Oil Co.'s No. 1, Survey 256, is taking a core at 1,900 feet. No. 2 is drilling at 1,655 feet. Lang and others' No. 1 is drilling around 765 feet. O. W. Killiam has a derrick standing for No. 1 Martinez.

Over in Zapata County, the Panuco Producing Co.'s No. 1 Vela is at 550 feet. Bateman's No. 1, Survey 617, is below 1,344 feet. O. W. Killiam's No. 1, Survey 307, set casing at 1,665 feet. Hill and others' No. 1 Haynes is drilling.

### Luling Field

On the Caldwell County side of the Luling Field, the United North and South Oil Co. has started Nos. 10 M. Mercer, 11 A. Mercer and No. 11 Moore. The latter is near the San Marcos River. A derrick is up for No. 8 Gideon. On the Guadalaupe County side, the same company has rigged No. 28 Baker, 490 feet west from No. 22 Baker. The Magnolia Petroleum Co.'s No. 13 Schubert, is at 1,766 feet and No. 14 Schubert at 2,100 feet. Ross & Green's No. 1 Pryor is around 1,780 feet. Lynch and others' No. 1 Jennings is idle. A large number of rigs stored in the Luling Field have been shipped to Wortham.

### Coastal Districts

In the Goose Creek Pool, the Gulf Production Co.'s No. 15 Smith was deepened to 1,600 feet and responded with a flow of 500 bbls. per day. The same company's No. 8 Producer is pumping 40 bbls. at 1,910 feet. It was worked over. The Humble Oil & Refining Co.'s No. 6 Tabb bailed dry at 2,010 feet and No. 47 Smith, on the east side is bailing at 4,080 feet. The Copeland Oil Co. got saltwater in No. 5 Bryan at 3,235 feet.

The deepest test in the pool is the Gulf Production Co.'s No. 21-A Wright, drilling below 5,200 feet. No. 8 Chapman-Bryan is below 4,350 feet. No. 8-A Tabb is around 2,655 feet. No. 5 H. Smith is at 2,655 feet and No. 17 Stateland at 1,900 feet. Nos. 1 Wright, 10 Tabb fee and 18 John Gilliard are rigging to work over.

The Humble Oil & Refining Co. is rigging No. 2 Hogg Island in the bay. No. 59 Smith is at 4,634 feet and No. 60 at 4,235 feet. The Inca Production Co.'s No. 2 Duke is at 2,330 feet and the Gulf Coast-United Central Co.'s joint No. 40 Galluard at 2,810 feet. Northwest of production, the Hisgen Petroleum Co.'s No. 2 Busch is at 4,010 feet.

In the Hull Pool, the Gulf Production Co.'s No. 38 Phoenix is pumping 75 bbls. at 2,925 feet. The Republic Production Co.'s No. 96 Dolbear is going on the beam at 2,200 feet with No. 95 Dolbear bailing at 1,600 feet. The same company's No. 48 Dolbear is working over. No. 90 is deepening at 2,800 feet and No. 93 is around 2,765 feet with a derrick standing for No. 97. The Gulf Co.'s No. 8 Morris-Phillips is deepening at 2,545 feet. No. 11 Baldwin Fee is at 1,770 feet. No. 16 Hannah is below 1,235 feet. No. 14 Scarborough is at 3,010 feet with No. 15 rigging to start drilling. On the Phoenix lease, No. 30 is deepening. No. 43 is drilling at 2,896 feet, with No. 44 at 1,010 feet and No. 45 around 1,545 feet. The Humble Oil & Refining Co.'s No. 1 Hannah is at 3,500 feet with No. 18 Guedry at 3,024 feet. No. 1 Merchant is at 1,345 feet. The Texas-Vacuum Oil Co.'s joint No. 4 Hannah is at 2,060 feet. The Empire Gas & Fuel Co. is working over No. 16 Barngrover. The Higgins Oil & Fuel Co.'s No. 5 Taylor is at 1,315 feet. The Mecom Oil Co.'s No. 6 Mecom is sidetracking at 3,355 feet and No. 7 is drilling at 2,915 feet.

### In Other Pools

In the Humble Pool, the Humble Oil & Refining Co.'s No. 16 Wilson is rigging and Marsilas Brothers' No. 3 Long is drilling.

In the Sour Lake Pool, the Minor Oil Co.'s No. 74 fee will pump at 975 feet. Three wells are bailing as follows: Lake View Oil Co.'s No. 41 Hardin at 1,425 feet, Sun Oil Co.'s No. 60 Bass & Eastham at 1,020 feet and M. E. Peveoto's No. 10 Carpenter at 1,035 feet.

The Texas Co. is working over No. 296 Fee. The Humble Oil & Refining Co.'s No. 38 Hardin is drilling at 2,700 feet and the Gulf Production Co.'s No. 51 Tarver-Hardin is at 2,470 feet.

In the Saratoga Pool, the Rio Bravo Oil Co.'s No. 3 Bryant is rigging. The Cotton Oil Co.'s No. 5 Gulf is at 700 feet and the Sun Oil Co.'s No. 58 T. C. at 1,010 feet.

In the Markham Pool, the Rycade Petroleum Co.'s No. 1 Gray is sidetracking at 3,255 feet. Its No. 2 Gray, drilling at 525 feet. Outside the pool, the Marland Oil & Refining Co.'s No. 1 Dwyer is at 4,025 feet. Crossland and others' No. 1 Hawkins is rigged to start drilling.

In the Batson Pool, the Gulf Production Co. worked over No. 160 Wing into a 65-bbl. pumper at 1,765 feet. The Acorn Oil Co.'s No. 49 Paraffine is pumping 10 bbls. at 400 feet and No. 50 is making 15 bbls. at 700 feet. Anderson & Munson's No. 3 Hodges will make a pumper at 2,950 feet, as will Cavitt's No. 2 King at 1,280 feet.

The Gulf Co.'s No. 158 Wing is working over. The Paraffine Oil Co.'s No. 50 fee is pumping 15 bbls. at 700 feet. The Ada Belle Oil Co. is rigging No. 82 Condon and the East Batson Oil Co. No. 2 Texas.

At Big Creek, the Gulf Production Co.'s No. 8 Wheat got saltwater at 2,900 feet and is deepening. No. 9 Wheat is rigging. The same company's No. 16 Davis is drilling at 2,845 feet and No. 17 Davis is starting. The Texas Co.'s No. 1 fee is drilling below 3,200 feet.

At Blue Ridge, the Gulf Production Co.'s No. 7 Luacher is drilling at 2,900 feet with No. 7 Invincible rigging up.

### South Louisiana

In the Edgerly Pool, the Roxana Petroleum Co. is rigging No. 1 Hunter and G. W. Gray No. 11 Lilliard.

In the Vinton Pool, the Gulf Refining Co.'s No. 45 G. N. G., is drilling at 2,624 feet and No. 34 Star at 2,000 feet with No. 2 Vincent deepening at 2,275 feet. Wilson & Broach's No. 6 Parks is at 2,800 feet. The Sun Oil Co.'s No. 3 Johnson is at 900 feet. The Siess Oil Co.'s No. 5 Green is at 2,285 feet. The Edgerly Petroleum Co.'s No. 1 Lisso is at 2,765 feet and No. 2 is at 3,565 feet. The Vinton Petroleum Co.'s No. 14 Rescue is drilling at 3,175 feet and No. 7 Rescue is deepening. The Texas Co.'s No. 1 B. Gray is rigging.

The Texas Co.'s No. 1 M. Gray will pump at 3,225 feet and No. 11 Vincent is bailing at 2,390 feet. The Vinton Petroleum Co.'s No. 42 Gray is pumping 75 bbls. at 2,350 feet and No. 43 is bailing at 2,410 feet. Its No. 13 Rescue is making 100 bbls. at 2,330 feet.

Outside of the pools proper, The Texas Co. abandoned No. 1 fee in Liberty County at 1,550 feet and has a location for No. 2 fee one-half mile to the south. There is a revival of leasing activity at Davis Hill in the northern part of Liberty County, a semi-defined saline dome around which much exploration work has been done in the past 16 years. In Brazoria County, the Rycade Petroleum Co.'s No. 3 Nash went into gyp at 826 feet and was abandoned. It is around the Wisdom Dome, 5 miles southeast of Damon Mound. It was located 1,000 feet west from No. 1 A.

The Texas Co. has contracted with the Vinton Petroleum Co. to run its production from the Vinton Pool, paying a premium of 20 cents per bbl., or $1.70. The posted price for grade A is $1.50 in the other pools.

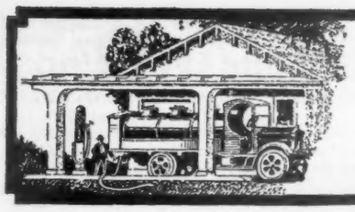
## NEED CONSIDERABLE MATERIAL

In anticipation of greatly increased activity in the industrial construction field, the Austin Co., industrial builders, with headquarters at Cleveland, Ohio, will begin to place orders for materials to cover 1925 requirements within the next few weeks.

A partial list of materials needed includes the following:

Ten thousand tons of steel shapes, plates and bars; 30,000 tons of fabricated structural steel for buildings; 22,000,000 feet BM of lumber consisting of timbers from 16-inch down to dimensions of 2-inch and 1-inch sheathing and miscellaneous lumber; 20,000,000 brick; 200,000 bbls. of Portland cement; 60,000 yards of sand; 100,000 yards of aggregate (stone, slag and gravel); 12,000 square feet of steel rolling doors; 2,500,000 square feet of built-up composition roof waterproofing; 1,400,000 square feet of steel sash; 1,600,000 square feet of glass; 350,000 square feet of maple flooring; 78,000 square feet of wood doors; 28,000 gallons of paint; 50,000 square feet of wood block flooring; 1,500 tons of metal roofing and siding; 700 tons of putty; 7,000 tons of reinforcing steel; 43,000 lineal feet of mechanical sash operating devices; 200,000 square feet of cement tile roofing; 100,000 square feet of gypsum roofing.

G. A. Bryant, Jr., is vice president of The Austin Co. and P. J. Brennan, general purchasing agent.



# TANK WAGON MARKETS

Tank wagon quotatins for gasoline and kerosene in United States as furnished by the larger marketing concerns, Dec. 23

## ALL TANK WAGON AND SERVICE STATION QUOTATIONS INCLUDE TAXES

### STANDARD OIL CO. (INDIANA)

**Main Service Station Price**

| | Gasoline Tank wagon | Gasoline Incids tax of | Gasoline Service station | Kero. Tank wagon |
|---|---|---|---|---|
| Chicago District— | | | | |
| †100 gals. or more | 13.0 | ... | 16.0 | 11.0 |

Tank wagon prices on April 10, 1922; g. up 1½c; May 8, g. up 1c; June 27, both up 1c; July 19, g. down 2c, k. down 1c; Oct. 10, g. down 2c; Oct. 21, g. down 1c; Feb. 5, 1923, g. up 1c; Feb. 20, g. up 1c; Aug. 14, g. down 6.6c; Oct. 4, k. down 1½c; Nov. 10, g. down 1.4c; Dec. 29, g. up 2c; Jan. 12, 1924, g. up 2c, k. up 1c; Feb. 5, g. up 2c, k. 1; July 18, g. down 1c; July 30, g. and k. down 1c; Sept. 12, g. down 2c.

| | | | | |
|---|---|---|---|---|
| Decatur, Ill. | 13.2 | ... | 15.2 | 11.5 |
| East St. Louis | 12.1 | ... | 14.35 | 10.6 |
| Joliet | 13.4 | ... | 15.4 | 11.7 |
| Peoria | 13.0 | ... | 15.0 | 11.5 |
| Quincy | 13.2 | ... | 15.2 | 11.3 |
| Davenport, Ia. | 13.5 | ... | 15.5 | 11.9 |
| Des Moines | 13.5 | ... | 15.5 | 11.9 |
| Keokuk | 13.5 | ... | 15.5 | 11.9 |
| Sioux City | 13.0 | ... | 15.0 | 11.5 |
| Duluth, Minn. | 14.5 | ... | 16.5 | 12.6 |
| Minneapolis | 14.2 | ... | 16.2 | 12.6 |
| La Crosse, Wis. | 14.2 | ... | 16.2 | 12.4 |
| Milwaukee | 13.1 | ... | 15.1 | 11.3 |
| Madison | 13.3 | ... | 15.3 | 11.5 |
| Detroit, Mich. | 13.8 | ... | 15.8 | 12.2 |
| Grand Rapids | 13.7 | ... | 15.7 | 12.1 |
| Saginaw | 13.9 | ... | 15.9 | 12.3 |
| Evansville, Ind. | 15.0 | 2.0 | 17.0 | 11.5 |
| Fort Wayne | 15.4 | 2.0 | 17.4 | 11.9 |
| Indianapolis | 15.2 | 2.0 | 17.2 | 11.7 |
| South Bend | 15.4 | 2.0 | 17.4 | 11.9 |
| Fargo, N. D. | 15.9 | 1.0 | 17.9 | 14.6 |
| Huron, S. D. | 17.0 | 2.0 | 19.0 | 13.1 |
| Sioux Falls | 15.0 | 2.0 | 17.0 | 12.6 |
| *Kansas City, Mo. | 13.9 | 1.0 | 15.9 | 10.3 |
| *Springfield | 13.8 | 1.0 | 15.8 | 11.2 |
| *St. Louis | 12.6 | 0.5 | 14.9 | 11.0 |
| *St. Joseph | 13.0 | 0.5 | 15.0 | 10.9 |
| Wichita, Kans. | 12.8 | ... | 14.8 | 9.8 |
| Bartlesville, Okla. | 14.4 | ... | 16.4 | 9.9 |

*City tax.
†Tank wagon price on less than 100 gallons, 14c.

### ATLANTIC COAST DISTRICT

**Standard Oil Co. (New Jersey)**

| | Gasoline Tank wagon | Gasoline Incids tax of | Gasoline Service station | Kero. Tank wagon |
|---|---|---|---|---|
| Newark, N. J. | 13.5 | ... | .... | 13.0 |
| Atlantic City | 13.5 | ... | .... | 13.0 |
| Annapolis, Md. | 15.0 | 2.0 | 17.0 | 12.0 |
| Baltimore | 15.0 | 2.0 | 17.0 | 11.0 |
| Cumberland | 15.0 | 2.0 | 17.0 | 12.5 |
| Washington, D. C. | 16.0 | 2.0 | 18.0 | 12.5 |
| Norfolk, Va. | 17.0 | 3.0 | 19.0 | 13.5 |
| Petersburg | 17.0 | 3.0 | 19.0 | 13.5 |
| Danville | 17.0 | 3.0 | 19.0 | 13.0 |
| Richmond | 17.0 | 3.0 | 19.0 | 13.5 |
| Roanoke | 17.0 | 3.0 | 19.0 | 13.5 |
| Keyser, W. Va. | 15.0 | 2.0 | .... | 13.5 |
| Charleston | 16.0 | 2.0 | .... | 12.5 |
| Parkersburg | 16.0 | 2.0 | .... | 13.5 |
| Wheeling | 16.0 | 2.0 | .... | 13.5 |
| Charlotte, N. C. | 15.0 | 3.0 | .... | 13.5 |
| Hickory | 15.0 | 3.0 | .... | 13.5 |
| Mt. Airy | 15.0 | 3.0 | .... | 13.5 |
| Salisbury | 15.0 | 3.0 | .... | 13.5 |
| Charleston, S. C. | 15.5 | 3.0 | .... | 14.0 |
| Columbia | 15.5 | 3.0 | .... | 14.0 |

### SOUTHERN DISTRICT

**Standard Oil Co. (Kentucky)**

| | Gasoline Tank wagon | Gasoline Incids tax of | Gasoline Service station | Kero. Tank wagon |
|---|---|---|---|---|
| Atlanta, Ga. | 17.0 | 3.0 | 20.0 | 11.0 |
| Augusta | 17.0 | 3.0 | 20.0 | 13.5 |
| Macon | 17.0 | 3.0 | 20.0 | 14.5 |
| Savannah | 14.0 | 3.0 | 17.0 | 13.0 |
| Birmingham, Ala. | 15.0 | 2.0 | 18.0 | 14.5 |
| Mobile | 14.0 | 2.0 | 17.0 | 12.5 |
| *Montgomery | 16.0 | 3.0 | 19.0 | 15.5 |
| Clarksdale, Miss | 15.0 | 3.0 | 18.0 | 12.0 |
| Jackson | 15.0 | 3.0 | 18.0 | 10.0 |
| Natchez | 14.5 | 3.0 | 17.5 | 11.5 |
| Vicksburg | 14.5 | 3.0 | 17.5 | 11.5 |
| Jacksonville, Fla. | 15.0 | 3.0 | 18.0 | 12.0 |
| Miami | 17.0 | 3.0 | 20.0 | 14.5 |
| Pensacola | 15.0 | 3.0 | 18.0 | 12.5 |
| Tampa | 15.0 | 3.0 | 18.0 | 13.0 |
| Lexington, Ky. | 16.0 | 3.0 | 19.0 | 14.0 |
| Covington | 15.0 | 3.0 | 18.0 | 14.0 |
| Louisville | 15.0 | 3.0 | 17.0 | 12.0 |

*In addition to State tax of 2 cents on gasoline, Montgomery has city tax of 1 cent on gasoline and ⅛ cent on kerosene.

### SOUTHWESTERN DISTRICT

**Magnolia Petroleum Co.**

| | Gasoline Tank wagon | Gasoline Incids tax of | Gasoline Service station | Kero. Tank wagon |
|---|---|---|---|---|
| Dallas, Tex. | 10.0 | 1.0 | 13.0 | 10.0 |
| Fort Worth | 10.0 | 1.0 | 14.0 | 10.0 |
| Houston | 10.0 | 1.0 | 14.0 | 10.0 |
| San Antonio | 10.0 | 1.0 | 12.0 | 10.0 |
| El Paso | 10.0 | 1.0 | 14.0 | 11.0 |
| Muskogee, Okla. | 14.0 | 2.5 | 19.0 | 11.0 |
| Oklahoma City | 14.0 | 2.5 | 17.0 | 11.0 |
| Tulsa | 12.0 | 2.5 | 15.0 | 10.0 |
| Ft. Smith, Ark. | 15.0 | 4.0 | 18.0 | 12.0 |
| Little Rock | 17.0 | 4.0 | 19.0 | 11.0 |
| *Texarkana | 16.0 | 4.0 | 19.0 | 10.0 |

*Does not include 1c additional tax.

### PACIFIC COAST DISTRICT

**Standard Oil Co. (California)**

| | Gasoline Tank wagon | Gasoline Incids tax of | Gasoline Service station | Kero. Tank wagon |
|---|---|---|---|---|
| San Francisco | 15.0 | 2.0 | 18.0 | 15.5 |
| Los Angeles | 13.5 | 2.0 | 16.5 | 15.5 |
| Fresno | 15.5 | 2.0 | 18.5 | 17.5 |
| Reno, Nev. | 18.5 | 2.0 | 21.5 | 19.0 |
| Portland, Ore. | 16.0 | 3.0 | 19.0 | 16.5 |
| Seattle, Wash. | 15.0 | 2.0 | 18.0 | 16.5 |
| Tacoma | 15.0 | 2.0 | 18.0 | 16.5 |
| Spokane | 19.0 | 2.0 | 22.0 | 20.5 |
| Phoenix, Ariz. | 21.0 | 3.0 | 24.0 | 21.5 |

### ROCKY MOUNTAIN DISTRICT

**Continental Oil Co.**

| | Gasoline Tank wagon | Gasoline Incids tax of | Gasoline Service station | Kero. Tank wagon |
|---|---|---|---|---|
| Basin, Wyo. | 17.0 | 1.0 | .... | 14.0 |
| Casper | 15.0 | 1.0 | 17.0 | 12.0 |
| Cheyenne | 16.5 | 1.0 | 18.5 | 13.5 |
| Cody | 15.0 | 1.0 | .... | 15.0 |
| Lander | 17.0 | 1.0 | .... | 14.0 |
| Albuquerque, N. M. | 20.5 | 1.0 | 22.5 | 15.5 |
| Salt Lake, Utah | 20.0 | 2.0 | 22.0 | 17.0 |
| Ogden | 20.0 | 2.5 | 22.0 | 17.0 |
| Denver, Colo. | 14.0 | 2.0 | 16.0 | 13.5 |
| Glenwood Spgs. | 20.0 | 2.0 | .... | 17.5 |
| Pueblo | 16.0 | 2.0 | 18.0 | 13.5 |
| Billings, Mont. | 18.5 | 2.0 | 20.5 | 14.5 |
| Butte | 20.0 | 2.0 | 22.0 | 15.0 |
| Great Falls | 20.0 | 2.0 | 22.0 | 16.0 |
| Helena | 20.0 | 2.0 | 22.0 | 16.0 |
| Miles City | 19.5 | 2.0 | 21.5 | 15.5 |
| Missoula | 21.0 | 2.0 | 23.0 | 16.0 |
| Boise, Idaho | 21.5 | 2.0 | 23.5 | 19.0 |
| Idaho Falls | 21.0 | 2.0 | 23.0 | 18.5 |

### PENNSYLVANIA-DELAWARE AND PART NEW ENGLAND

**Atlantic Refining Co.**

| | Gasoline Tank wagon | Gasoline Incids tax of | Gasoline Service station | Kero. Tank wagon |
|---|---|---|---|---|
| *Pittsburgh, Pa. | 15.0 | ... | 20.0 | 14.0 |
| *Philadelphia | 15.0 | ... | 20.0 | 14.0 |
| *Scranton | 15.0 | ... | 20.0 | 14.0 |
| *Allentown | 15.0 | ... | 20.0 | 14.0 |
| *Altoona | 15.0 | ... | 20.0 | 14.0 |
| *Erie | 15.0 | ... | 20.0 | 14.0 |
| Dover, Del. | 17.0 | 2.0 | 20.0 | 14.0 |
| Wilmington | 17.0 | 2.0 | 20.0 | 14.0 |
| Springf'd, Mass. | 15.0 | ... | 18.0 | 13.0 |
| Worcester, Mass. | 15.0 | ... | 18.0 | 13.0 |
| Boston | 15.0 | ... | 18.0 | 11.0 |
| Providence, R. I. | 15.0 | ... | 18.0 | 13.0 |
| Hartford, Conn. | 16.0 | 1.0 | 19.0 | 12.0 |
| New Haven, Conn. | 16.0 | 1.0 | 19.0 | 13.0 |

*Pennsylvania tax of 2 cents is collected by the dealer and paid by him direct to the State.

### NEW YORK AND PART OF NEW ENGLAND DISTRICT

**Standard Oil Co. (New York)**

| | Gasoline Tank wagon | Gasoline Incids tax of | Gasoline Service station | Kero. Tank wagon |
|---|---|---|---|---|
| Albany, N. Y. | 15.0 | ... | .... | 13.0 |
| *New York | 15.0 | ... | .... | 13.0 |
| Buffalo | 13.0 | ... | .... | 12.0 |
| Rochester | 15.0 | ... | .... | 13.0 |
| Syracuse | 15.0 | ... | .... | 12.0 |
| Boston, Mass. | 15.0 | ... | .... | 13.0 |
| Providence, R. I. | 15.0 | ... | .... | 13.0 |
| Augusta, Me. | 16.0 | 1.0 | .... | 13.0 |
| Manchester, N. H. | 17.0 | 2.0 | .... | 13.0 |
| Burlington, Vt. | 16.0 | 1.0 | .... | 13.0 |

*Price in steel barrels.

Note: Standard Oil Co. of New York does not generally quote service station prices in its territory. In most cases the service station price is 2 or 3 cents higher than tank wagon price.

### NEBRASKA

**Standard Oil Co. (Nebraska)**

| | Gasoline Tank wagon | Gasoline Incids tax of | Gasoline Service station | Kero. Tank wagon |
|---|---|---|---|---|
| Omaha | 11.0 | ... | 13.0 | 11.5 |
| Crawford | 14.0 | ... | .... | 12.25 |
| McCook | 14.75 | ... | 16.75 | 13.0 |
| Norfolk | 13.75 | ... | 15.75 | 13.0 |
| North Platte | 14.75 | ... | 16.75 | 12.75 |
| Scotts Bluff | 14.25 | ... | 16.25 | 12.25 |

### CENTRAL SOUTH DISTRICT

**Standard Oil Co. (Louisiana)**

| | Gasoline Tank wagon | Gasoline Incids tax of | Gasoline Service station | Kero. Tank wagon |
|---|---|---|---|---|
| New Orleans, La. | 13.5 | 2.0 | 15.5 | 9.0 |
| Alexandria | 14.5 | 2.0 | 16.5 | 13.0 |
| Baton Rouge | 13.0 | 2.0 | 15.0 | 11.5 |
| Lake Charles | 14.5 | 2.0 | 16.5 | 13.0 |
| Shreveport | 14.5 | 2.0 | 16.5 | 13.0 |
| Memphis, Tenn. | 14.0 | 2.0 | 16.0 | 14.0 |
| Chattanooga | 15.0 | 2.0 | 17.0 | 14.5 |
| Knoxville | 16.5 | 2.0 | 18.5 | 15.0 |
| Nashville | 15.5 | 2.0 | 17.5 | 13.5 |
| Bristol | 17.0 | 2.0 | 19.0 | 13.5 |
| Little Rock, Ark. | 17.0 | 4.0 | 19.0 | 13.0 |

### OHIO

**Standard Oil Co. (Ohio)**

| | Gasoline Tank wagon | Gasoline Incids tax of | Gasoline Service station | Kero. Tank wagon |
|---|---|---|---|---|
| All Ohio points | 15.0 | ... | 17.0 | 14.0 |

## TRUE WILCOX SAND IS NOT FOUND IN KANSAS

The true Wilcox sand is not found in southern Kansas, according to William H. Foster, of Foster & Reiter, who made an address before the Tulsa Geological Society on December 20. Mr. Foster declared that the Wilcox crops out in Mayes, Rogers and Nowata Counties, Oklahoma; and that the siliceous lime in Elk, Labette and Chautauqua Counties, Kansas, is more properly correlated with the Turkey Mountain sandstone, which is of Ordovician age, and below the Mississippian.

"Some Problems in Oklahoma Geology," was the subject of a paper delivered by Dr. Charles N. Gould, director of the Oklahoma Geological Survey. After pointing out the great advances which have been made in our knowledge of Oklahoma stratigraphy, Dr. Gould enumerated 10 of the principal problems which are as yet unsolved.

Officers of the society for the coming year were nominated as follows: Walter B. Wilson, of the Gypsy Oil Co., president; Arthur F. Truex, vice president, and Miss Dollie Radler, secretary-treasurer. The members of the council of the society will be Frank C. Greene, John M. Herold, A. E. Stander and W. J. Allen. The next meeting of the society will be held on January 3.

## MEXICAN OUTPUT LESS; HEAVY OFF, LIGHT UP

Heavy oil production in Mexico totaled 1,633,000 bbls. in the week ended December 13, a decrease of 30,000 bbls. from the previous week. Output of light oil, aggregating 879,000 bbls., increased 4,000. Production follows (in barrels):

| | Dec. 13 South | Dec. 13 Panuco |
|---|---|---|
| Mexican Petroleum | 541,000 | 384,000 |
| S. O. of N. J. | 25,000 | 454,000 |
| Royal Dutch | 11,000 | 322,000 |
| Mexican Seaboard | 16,000 | 183,000 |
| Sinclair | 3,000 | 149,000 |
| Gulf Oil | 57,000 | 60,000 |
| Mexican Eagle | 127,000 | 10,000 |
| Atlantic Gulf | 28,000 | ..... |
| Penn Mex Fuel | 20,000 | ..... |
| The Texas Co. | 4,000 | 10,000 |
| Miscellaneous | 47,000 | 161,000 |
| Total | 879,000 | 1,633,000 |

Toteco Pool production totaled 104,000 bbls., unchanged from previous week, Gulf Oil producing 51,000 bbls., Mexican Petroleum 37,000 and Mexican Seaboard 16,000.

## ZERO WEATHER AIDS DISTILLATE DEMAND

(Continued from Page 22)

to see the absorption grades continue around the price obtained by the refiners for U. S. Motor gasoline. Cold weather has aided the demand for blends and prices have not been reduced as much as the straight run grades.

**Fuel and Gas Oils**

Both fuel and gas oils are strong with outlook for January favorable. All classes of buyers are in the market. One refiner is said to have been offered $1.15 for 22-26 fuel oil for delivery over the first three months of the year in the buyers' cars. Another refiner reported an offer of $1.20 for 24-26 for January delivery in sellers' cars. Gas oil has advanced to a low of 3¼ cents with a few plants asking as high as 3½ cents for zero cold test material.

**Neutrals and Wax**

There has been little change in lubricating oils and wax. Bright stocks which have been consistently strong for several months are easier, due to less demand. The demand for cylinder stocks is generally termed "fair" by the manufacturers. Offers of 5 cents and 5¼ cents were made for wax.

## PIPE LINE VETERAN JOINS ANNUITY ROLL

PITTSBURGH, Pa., Dec. 20.—Henry C. Roess, C. E., another pipe line employe whose service covers more than three decades has been placed upon the annuity roll of the Southern Group of Pipe Lines. On January 1, 1925, Mr. Roess will retire from active service as chief engineer and head of the real estate and tax department of the Southern Group, which comprises the Cumberland Pipe Line Co., Inc., the Eureka Pipe Line Co., the South West Pennsylvania Pipe Lines and the Southern Pipe Line Co.

John Darr, superintendent of telegraph, will take over the real estate and tax matters and Theodore C. Towl, superintendent, South West Lines, will supervise the engineering matters in this district formerly taken care of by Mr. Roess.

The pipe line group was represented at a complimentary dinner in honor of Mr. Roess by the following: Eureka Pipe Line, Messrs. Kenney, Cronise and Loane; Cumberland Pipe Line Co., Messrs. Darr, Gerwick and Redpath; Southern Pipe Line, Messrs. O'Day, Scally and Fritz; South West Pipe Line, Messrs. Egan, Towl and O'Brien.

## TOWN LOT DRILLING IS GIVEN SET-BACK

AUSTIN, Tex., Dec. 22.—Authority of the Oil and Gas Division, State Railroad Commission, to enforce "Rule 37," regulating distance between oil wells, was sustained by the Guadalupe County District Court, in a suit brought by the Oil and Gas Bureau, represented by the Attorney General's Department, against a Seguin company, the Quick Development Syndicate, Inc. A perpetual injunction, restraining the company from drilling a well within less than 150 feet of the property line of another, without an exception to Rule 37 was granted, together with a penalty judgment.

H. E. Bell, chief supervisor of the Oil and Gas Bureau, announced the ruling will assist his department in preventing "congested town lot drilling," in the new oil town of Wortham, where many small leaseholders are seeking to drill wells in the town.

## BUCHANAN CHAIRMAN PROGRAM COMMITTEE

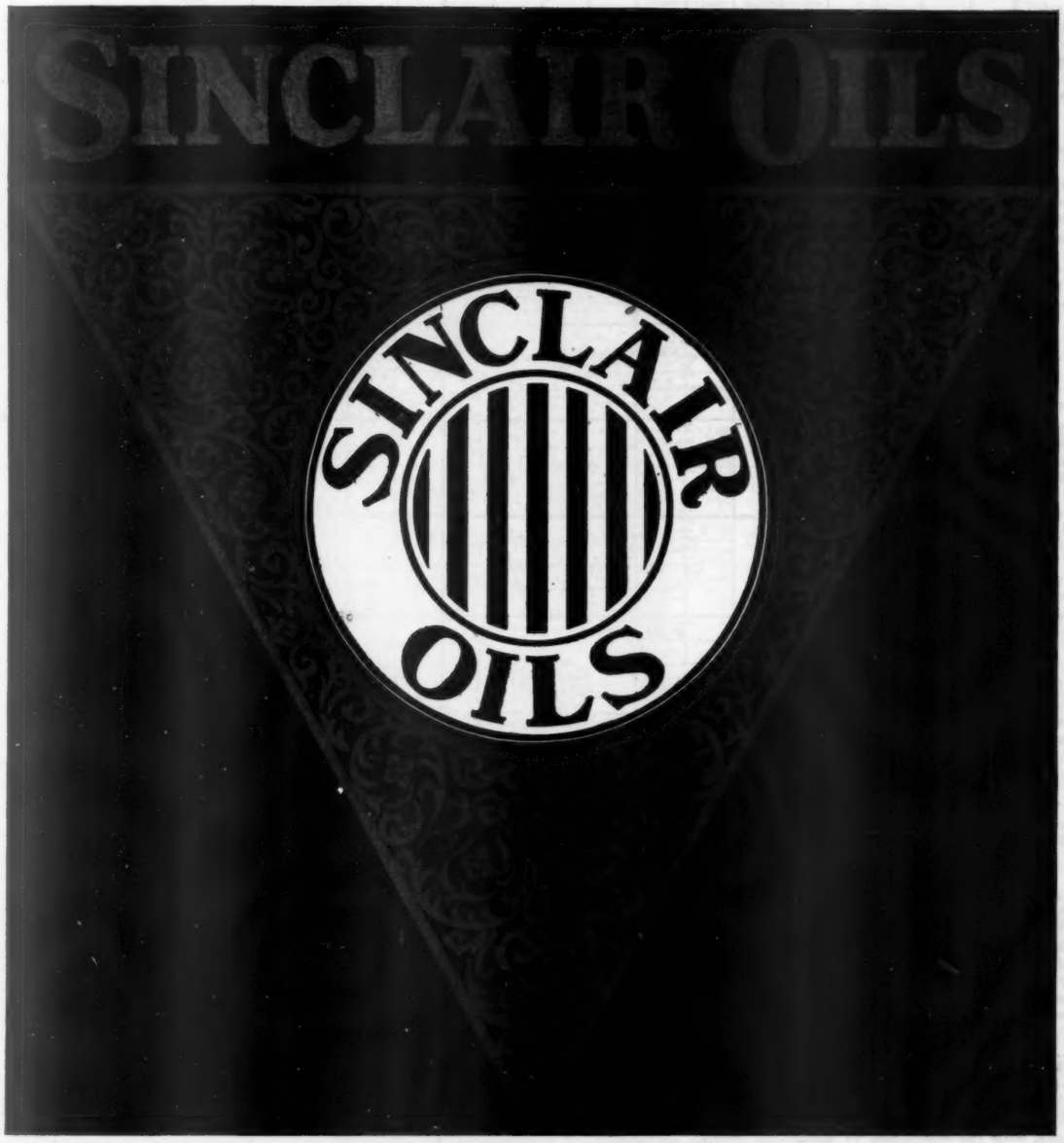
F. A. Pielsticker, president of the Western Petroleum Refiners' Association, has appointed D. E. Buchanan of the Chestnut & Smith Corp., Tulsa, as chairman of the program committee for the annual meeting to be held in Kansas City March 3, 4 and 5. R. R. Irwin of the White Eagle Oil & Refining Co. has been made chairman of the entertainment committee.

Other members of the committee are as follows: Program—C. L. Henderson, Vickers Petroleum Co.; D. W. Moffitt, Cosden & Co.; George D. Locke, Barnsdall Refining Co., and P. M. Miskell, Empire Refineries, Inc. Entertainment—E. W. Goebel, Kansas City Refining Co.; J. H. Miller, Miller Petroleum Co.; J. L. Walsh, Mutual Oil Co., and John R. Bailey, Skelly Oil Co.

## LARGE TIN PLATE ORDERS

The Standard Oil Co. of New York has ordered 140,000 boxes of tin plate from the Bethlehem Steel Corp. and the McKeesport Tin Plate Co. at a cost of $770,000. The tin plate will be used in the manufacture of cans in which to export refined oil products.

The Texas Co. has closed on its recent inquiry for 100,000 boxes of tin plate. It is understood that the order went to the American Sheet & Tin Plate Co., subsidiary of United States Steel.

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# Salt Creek Field Still Has Much Room For Development

The test of the Midwest Refining Co. on Section 35-40-79 in the Salt Creek Field, located after a careful study of all data available from wells drilled to the Lakota sand in Salt Creek, is one of the most interesting developments in the Rocky Mountain area at this time. It is expected to have the well to the Lakota sand possibly during this week unless trouble develops meanwhile. The test has been located as near the central part of the Lakota structure as possible and it has been expected the well would come in fully as large as any producer yet found from that producing horizon which would mean a well in excess of 20,000 bbls. daily.

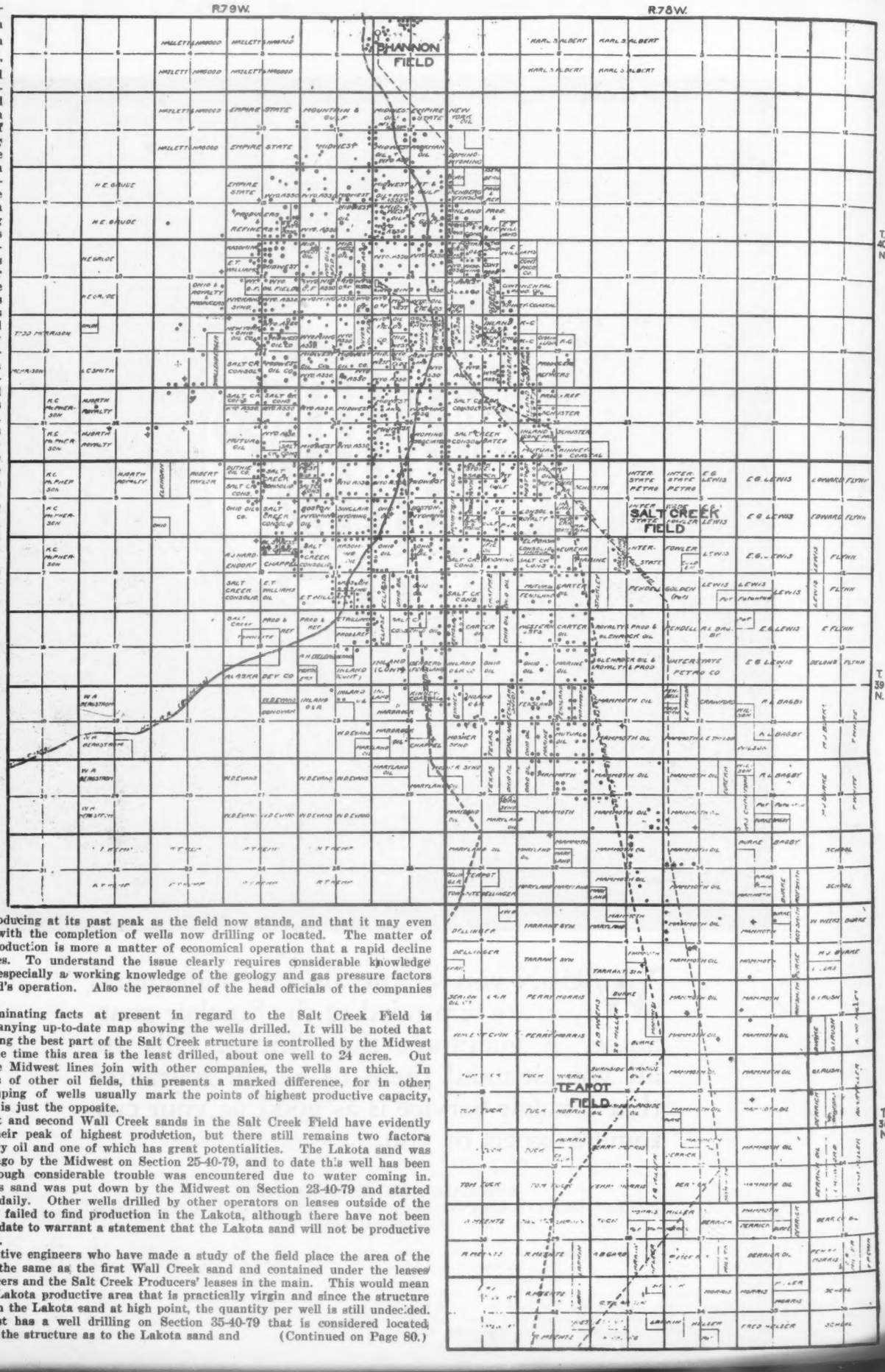
So much emphasis has been placed recently on the decline in production of the Salt Creek Field, the statement made by Frank B. Taylor, staff correspondent of The Oil and Gas Journal in the Rocky Mountain area, in the November 27 issue of The Oil and Gas Journal, that the field is capable as it stands, of producing as much as its peak record, has caused considerable discussion.

As Mr. Taylor has pointed out various times in his weekly reviews of the Salt Creek Field, in The Oil and Gas Journal, the peak of production of the Salt Creek Field has been passed in the amount of oil produced from the second Wall Creek sand. That does not mean that the Salt Creek Field is on its ultimate decline, however. The fact is that today the Salt Creek Field is capable of producing at its past peak as the field now stands, and that it may even pass that high mark with the completion of wells now drilling or located. The matter of the present drop in production is more a matter of economical operation that a rapid decline of the wells themselves. To understand the issue clearly requires considerable knowledge of the field itself and especially a working knowledge of the geology and gas pressure factors that enter into the field's operation. Also the personnel of the head officials of the companies doing the operating.

One of the illuminating facts at present in regard to the Salt Creek Field is a study of the accompanying up-to-date map showing the wells drilled. It will be noted that the great area comprising the best part of the Salt Creek structure is controlled by the Midwest companies; at the same time this area is the least drilled, about one well to 24 acres. Out on the edge where the Midwest lines join with other companies, the wells are thick. In comparison with maps of other oil fields, this presents a marked difference, for in other regions the thick grouping of wells usually mark the points of highest productive capacity, while in Salt Creek it is just the opposite.

The Shannon, first and second Wall Creek sands in the Salt Creek Field have evidently reached and passed their peak of highest production, but there still remains two factors that are known to carry oil and one of which has great potentialities. The Lakota sand was drilled to three years ago by the Midwest on Section 25-40-79, and to date this well has been producing steadily, though considerable trouble was encountered due to water coming in. The second well to this sand was put down by the Midwest on Section 23-40-79 and started off around 6 000 bbls. daily. Other wells drilled by other operators on leases outside of the Midwest holdings have failed to find production in the Lakota, although there have not been enough wells drilled to date to warrant a statement that the Lakota sand will not be productive on the edge of the field.

The more conservative engineers who have made a study of the field place the area of the Lakota sand as about the same as the first Wall Creek sand and contained under the leases of the Mountain Producers and the Salt Creek Producers' leases in the main. This would mean around 4,500 acres of Lakota productive area that is practically virgin and since the structure has never been tested in the Lakota sand at high point, the quantity per well is still undecided. At the present Midwest has a well drilling on Section 35-40-79 that is considered located directly on the apex of the structure as to the Lakota sand and (Continued on Page 80.)



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# Research for Petroleum Substitutes

## Every Country in Europe Seeking for Motor Fuel Other Than Gasoline. Charcoal, Alcohol. Coal and Fish Oil Tried

By Staff Correspondent

PARIS, France, Dec. 13.—At the time of the International Conferences held in Lausanne, the world's press was full of articles referring to the international struggle for the control of the oil lands of Russia and Mesopotamia, as well as that of the other developed and potential oil fields of the world. Some went even so far as saying, to show the part played by King Petroleum in the debates, that peace without oil seemed to be absolutely impossible.

It is quite evident most of the powers of the world are doing, directly, or indirectly through their national oil interests, their utmost efforts to get a share in the control and the development of the known and prospective oil fields. Outside of America and Great Britain, they must, however, admit that for various reasons they came altogether and most unfortunately too late.

The Continental European States are getting to realize that not much is left of the oil fields of the world. They are beginning to realize also that getting even a part of the control of a prospective oil field is far from being sufficient to provide a country with an adequate and independent liquid fuel supply.

### Risk and Cost

It is evidently a sound policy to try and get a participation in the development of unproven oil fields. But is it not also just as sound to think these unproven oil fields may prove worth much less than at first expected, and, even if they produce when developed, as much as expected, it will take, in some cases, a good number of years and an enormous lot of money to bring their production to the world markets.

In the meantime, who is going to supply the various European States with the liquid fuel they need? In America, where about 75 per cent of Europe's oil supply is coming from, one hears of a fast coming shortage. Great efforts are being made in Continental Europe to develop prospective oil fields, but, so far, these efforts have not met with considerable success. Everybody conceives that the production of gasoline might be increased considerably by technical developments allowing further incursions into the fuel oil fraction but when the rapidity of the increase in the demand of gasoline is borne in mind, it is obvious it may be only a question of a short time before the supply will prove inadequate.

The European States were, therefore, faced with the alternative either of finding a suitable substitute or of economizing in the use of gasoline. Being deprived of an independent supply of gasoline it was only natural they should direct most of their efforts towards the finding of suitable substitutes. The results already obtained may not yet be quite satisfactory nor even convincing but they are interesting enough to be worth mentioning.

### Power Alcohol

Fuel experiments carried out by several Governments and such companies as the London General Omnibus Co. and the Paris Autobus Co. has shown that alcohol, either straight or mixed up with other liquidh such as benzol and gasoline was an excellent fuel.

The use of alcohol as a fuel was even introduced in several countries. In France the Government voted the creation of a "carburant national," made of gasoline and dehydrated alcohol in equal proportions. The vote had a double object: first to help the French alcohol industry, handicapped by a dangerous overproduction, and, also, to reduce the imports of gasoline into French territory. The law made it compulsory for all importers of gasoline to buy from the Government an amount of dehydrated alcohol equal to 10 per cent of their gasoline imports. This alcohol was, then, to be resold to consumers in the form of a mixture of 50 per cent alcohol and 50 per cent gasoline.

The Government's inability to supply the dehydrated alcohol in sufficient quantities, added to the strenuous efforts and the ill will of those interested in the nonsuccess of the new mixture, has been enough to make it look and be advertised through the press as a failure. In order not to develop the use of the "carburant national," importers have preferred to resell their alcohol to such companies as the Paris Autobus Co. with a loss amounting to as much as 50 per cent of its value. Some parties went so far as claiming the mixture was not fit to be used in the usual automobile motors. If arguments were to be given against the use of an alcohol-gasoline mixture, this would certainly seem to be the last one to be used. The price of commercial alcohol, and the difficulty in keeping it sufficiently dehydrated to make it mixable with gasoline are arguments which cannot be overlooked. But these two problems being solved, it seems obvious nothing but ill will could interfere with the use of alcohol. It has been recognized in America as well as elsewhere that the consumption of gasoline could be greatly reduced by the use of antiknock products. Alcohol cannot even be described as an antiknock product, it is, in fact, a product that does not kock under any compression. Its mixture with gasoline could, therefore, produce nothing but good effects, as has been shown by the many experiments, proceeded with for a number of years before the adoption of the "carburant national."

### Dynalkol

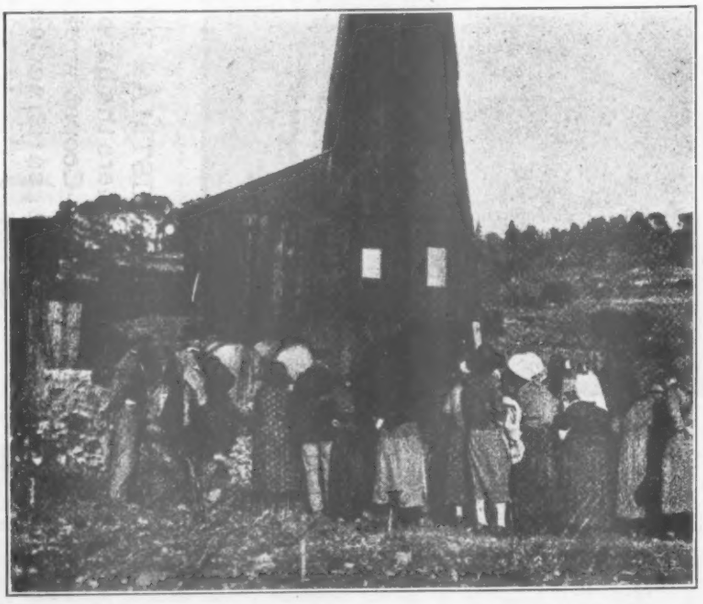
Czecho-Slovakia has recently decided to use a gasoline substitute called Dynalkol as liquid fuel for army and mail services. Dynalkol is a miyture of alcohol and benzol in equal quantities, with addition of a small percentage of naphthaline. This mixture made of home products is reported to have given very satisfactory results. However, it would seem its adoption by the public is far from being accomplished, a very strong campaign being made in various quarters against its use.

Sweden has, also, been experimenting for some time with n alcohol motor fuel, called "bentyl" based on sulphite alcohol. It has been reported the new bentyl fuel has given very satisfactory results. It can be readily supplied in commercial quantities, since there are 22 sulphite alcohol distilleries in Sweden, whose annual output has been estimated at over 50,000,000 gallons.

### Coal Carbonization

During recent years most European countries have been actively working on the question of carbonization of coal. The time seems to be coming when a more rational use of coal will be made compulsory by the various Governments. It is well known that instead of using raw coal as a means of production of heat it would be much more economical to submit it previously to at least a partial carbonization, in order to extract some of the extremely useful subproducts it contains, and deliver it to consumption under the form of coke.

The researches on coal carbonization are progressing very satisfactorily in most European countries where coal mines are found. England, France, Belgium, Italy, Germany, etc. have organized special committees composed of well known scientists and specialists to gather accurate data concerning the various methods of coal carbonization and gasification of coke; the varius types of apparatus used for carbonization; use of the oils produced as a source of fuel for steam boilers or Diesel engines; use of coke produced by such methods from various types of coal as a smokeless fuel for domestic and industrial purposes, the distillation of lignite and peat, etc. Such a work must evidently extend over a rather long period, but good results have already been attained, and one may be justified in expecting the carbonization of coal will shortly play an important part in helping to solve the problem of finding gasoline substitutes.



—Times Wide World Photo.

**The first well which ever produced oil in France, sunk at Gobain in the south and now under examination by Government experts to see if oil exists in paying quantities.**

In front of the European States which have more particularly come out of the World War without an adequate liquid fuel supply, one must place France and Germany. It was only natural these two countries, anxious to keep their rank as world powers, should specially apply their energy towards the finding of substitutes. It is also to be recognized that it is in these two countries science applied to such researches has produced the most interesting and even surprising results.

Much has been said concerning the Bergius process of hydrogenation of coal and heavy liquid hydrocarbons. The process has now passed the stage of experimentation. It is gradually entering the commercial and industrial phase, and it is to be noted that, recently, a Belgian specialist has claimed that, by the single use of the Berguis process, Belgium would be assured, inside of five years, an entirely independent liquid fuel supply.

In Germany, also, the production of liquid fuel by distillation of lignites has been progressing considerably during the last few years. The distillation of lignites has actually given rise to one of Germany's most prosperous industries, through which that country's imports of petroleum products have enormously decreased.

### Synthetic Processes

In France other very interestng results have been obtained by scientists, in their laboratories. During a recent scientific congress, held in connection with what was called a "semaine de motoculture" two groups of scientists were able to show two different processes of manufacturing petroleum and gasoline substitutes.

One of these groups was represented by Professor Mailhe, of the Toulouse University, whose experiments were reproduced in Holland and Germany, and who, through his process, was able to manufacture a fuel, the calorific power of which is claimed to be about 10,900 calories. The raw material used by Professor Mailhe is made of fish and nut oils.

The other group of scientists is composed of M. M. Andry, Bourgeois and Olivier, whose process consists in the following operations: Manufacture of water gas from the action of water on coke; manufacture of methane or marsh gas by hydrogenation of the water gas; conversion of marsh gas into acetylene; and conversion, by catalysis, of acetylene into liquid hydrocarbons.

Many objections have been made against the new processes, the products of which have been very improperly given the name of "petrole synthetique." To translate this denomination by "synthetic gasoline" seems to be just as improper, as the most that could be said is that the products, used in an automobile engine as they have been during recent experiments, have behaved in just exactly the same way as plain gasoline itself.

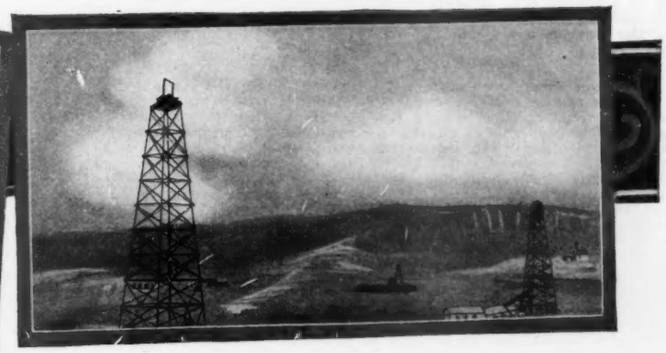
It is obvious that nobody, even in France, is thinking of an immediate commercial use of the so-called "petrole synthetique." The commercialization of a process may be a difficult problem, but is there anyone who would ever dare to claim that its solution is not possible, after considering what results have been obtained in the manufacture of synthetic alcohol, and synthetic nitrogen?

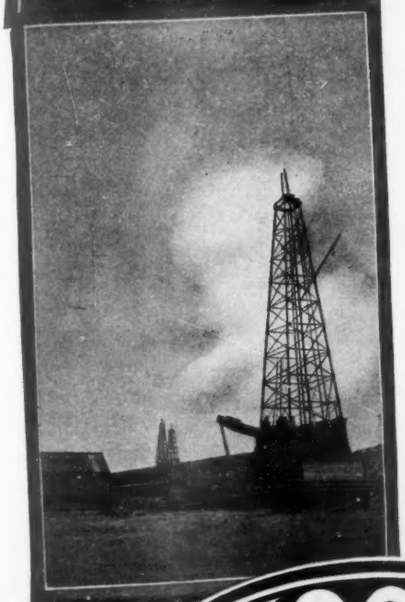
### Charcoal Producers

The most striking progress ever realized in the French researches concerning gasoline substitutes, is certainly to be found in the development of charcoal-gas producers, adaptable to all knds of automobile vehicles.

There are now in France 17 firms

(Continued on Page 36)





# In the Wyoming Fields

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# Petroleum Refinery Statistics for October 1924

Compiled by G. R. Hopkins
*Petroleum Economist*

During the month of October the Bureau of Mines received reports from 280 refineries, with an aggregate daily crude oil capacity of 2,312,707 bbls., running to stills a daily average of 1,799,323 bbls. of both foreign and domestic crude oil, or 77.8 per cent of their daily operating capacity, a decrease of .7 per cent from the refinery operations of the previous month but an increase of 1.3 per cent over the operations of October, 1923.

### Gasoline

The production of gasoline during the month of October was 760,646,784 gallons, an increase over the previous month of over 10,000,000 gallons. However, the daily average production ran under that for the previous month, being 24,500,000 gallons against 25,000,000 gallons per day for September. The domestic demand or consumption of gasoline for the month was almost equal to production, being 751,499,199 gallons. This represents an increase over the previous month of 33,000,000 gallons, reflecting the good automobile weather of October as compared to September. Exports dropped off 22,000,000 gallons, but remained heavy at 95,000,000 gallons and were mainly responsible for the reduction of stocks during the month of 77,000,000 gallons. This is comparable with the reduction of gasoline stocks in September of 80,000,000 gallons. Gasoline stocks on October 31 were 1,152,374,237 gallons, the lowest since January 1, 1924. These stocks represent 47 days' supply at the present rate of domestic demand. This compared with the same number of days' supply on hand a year ago and 51 days' supply a month ago.

### Kerosene

The production of kerosene during the month of October was 233,000,000 gallons, a daily average of 7,500,000 gallons, and an increase of 6 per cent over the daily production of the previous month. Stocks increased 10,000,000 gallons during the month, standing at 308,000,000 gallons on October 31.

### Gas and Fuel Oils

The production of gas and fuel oils was 1,161,000,000 gallons, a daily average of 37,441,400 gallons, and an increase over the previous month of a little over 300,000 gallons per day. Domestic demand was 1,096,000,000 gallons, a record figure. Stocks on hand October 31 were 1,612,000,000 gallons, a decrease from the previous month of 30,000,000 gallons. As with gasoline, these stocks represented 47 days' supply at the present rate of domestic demand. This compares with 50 days' supply on hand September 30.

### Lubricants

The production of lubricants was 97,000,000 gallons, an increase of 7,000,000 over the previous month. The increase in production was absorbed by an increase in exports from 25,000,000 gallons to 31,000,000 gallons. Domestic demand dropped off slightly and stocks showed a small increase.

### Wax

Stocks of wax dropped to a new record low figure of 91,100,000 pounds. However, production increased 6,000,000 pounds to 40,900,000 pounds.

### Table of Operations by Divisions

October, 1924

| Division— | No. plants Reporting | Capacity Bbls. | Daily average crude runs Bbls. | Pct. runs to capacity October | Pct. runs to capacity September |
|---|---|---|---|---|---|
| East Coast | 18 | 456,000 | 355,169 | 77.9 | 77.5 |
| Pennsylvania | 49 | 86,265 | 63,174 | 73.2 | 72.5 |
| Indiana and Illinois | 24 | 169,600 | 156,844 | 92.5 | 89.4 |
| Oklahoma and Kansas | 62 | 335,400 | 227,744 | 67.9 | 67.3 |
| Texas | 53 | 412,980 | 374,384 | 90.7 | 92.2 |
| Louisiana and Arkansas | 13 | 151,740 | 148,192 | 97.7 | 99.0 |
| Colorado and Wyoming | 17 | 124,617 | 73,644 | 59.1 | 62.9 |
| California | 38 | 576,105 | 400,172 | 69.5 | 71.6 |
| United States | 280 | 2,312,707 | 1,799,323 | 77.9 | 78.5 |
| Texas Gulf Coast | 13 | 282,000 | 285,836 | 101.4 | 102.5 |
| Louisiana Gulf Coast | 5 | 112,100 | 109,634 | 97.8 | 97.0 |

The difference between September and October capacities are explained as follows: Pennsylvania, one plant added to those reporting, capacity 1,000; Oklahoma, capacity increase 1,500; Texas, one plant resumed operations, capacity, 5,000, three plants resumed reporting, capacity 6,500, capacity increase 1.750; California, one plant did not report, capacity 3,000, three plants resumed reporting, capacity 6,635, capacity increase 16,500; Texas Gulf Coast, two plants resumed reporting, capacity 3,500, one plant resumed operations, capacity 5,000.

### Comparative Analysis for October, 1924

| Gasoline— | Production | *Imports | *Exports | Stocks End of Period | Domestic Demand |
|---|---|---|---|---|---|
| October, 1923 | 659,060,570 | 23,484,550 | 87,204,601 | 946,872,683 | 621,172,668 |
| August, 1924 | 755,779,688 | 16,124,923 | 112,339,075 | 1,311,020,845 | 819,467,892 |
| September | 750,264,418 | 3,217,278 | 116,828,035 | 1,229,605,883 | 718,068,623 |
| October | 760,646,784 | 9,113,348 | 95,492,579 | 1,152,374,237 | 751,499,199 |
| Kerosene— | | | | | |
| October, 1923 | 191,346,325 | 16,380 | 79,864,581 | 224,954,009 | 124,568,127 |
| August, 1924 | 204,106,726 | 6,360 | 67,661,327 | 304,136,230 | 133,472,878 |
| September | 211,830,320 | 6,590 | 81,680,665 | 297,748,681 | 136,543,794 |
| October | 232,665,935 | 2,978,124 | 90,359,344 | 308,124,602 | 134,908,794 |
| Gas and fuel oils— | | | | | |
| October, 1923 | 1,069,800,191 | 22,001,109 | 131,099,321 | 1,436,591,014 | 1,015,314,958 |
| August, 1924 | 1,167,211,159 | §49,321,776 | 156,033,837 | 1,658,670,957 | §1,008,279,625 |
| September | 1,113,911,361 | 24,160,405 | 145,440,402 | 1,640,602,510 | 1,010,699,811 |
| October | 1,160,683,355 | 41,137,171 | 134,983,565 | 1,611,585,894 | 1,095,853,577 |
| Lubricants— | | | | | |
| October, 1923 | 88,003,033 | 2,032 | 25,590,031 | 218,485,258 | 68,942,955 |
| August, 1924 | 92,761,392 | 4,641 | 29,271,086 | 242,752,892 | 66,367,924 |
| September | 90,227,655 | 1,525 | 24,855,659 | 243,149,213 | 64,977,200 |
| October | 97,223,404 | 10,778 | 31,317,105 | 247,998,498 | 61,067,792 |
| Wax— | | | | | |
| October, 1923 | 38,719,388 | 873,120 | 30,236,228 | 173,533,228 | 12,889,024 |
| August, 1924 | 39,341,374 | 1,277,958 | 26,917,121 | 103,219,860 | 18,282,134 |
| September | 35,184,791 | 1,454,050 | 33,192,704 | 98,190,188 | 8,475,809 |
| October | 40,924,224 | 926,606 | 30,814,323 | 91,077,241 | 18,149,454 |
| †Crude oil (Barrels of 42 gallons)— | | | | | |
| October, 1923 | 67,506,000 | 6,825,000 | 1,315,000 | 357,458,160 | 62,804,288 |
| August, 1924 | 61,704,000 | 5,862,000 | 1,242,000 | 403,620,790 | 58,913,141 |
| September | 59,611,000 | 5,354,000 | 1,777,000 | 405,248,800 | 61,559,990 |
| October | 59,826,000 | 4,873,000 | 1,423,000 | 402,693,191 | 65,831,609 |

Note—*From Bureau of Foreign and Domestic Commerce; exports include shipments to Alaska, Hawaii and Porto Rico. †From United States Geological Survey (revised figures used when available). ‡Pipe line, tank farm and refinery stocks. §Revised.

### Runs to Stills and Output of Refineries in the United States

October, 1924

| Oils run to stills, Bbls.— | Crude oils— Domestic | Crude oils— Foreign | Unfinished oils— Domestic | Unfinished oils— Foreign | Natural gas Gasoline | Total oils run to stills |
|---|---|---|---|---|---|---|
| East Coast | 9,084,938 | 1,925,291 | 386,268 | 132,974 | 250,022 | 11,779,493 |
| Pennsylvania | 1,958,387 | ..... | 91,649 | ..... | 35,621 | 2,085,657 |
| Indiana and Illinois | 4,862,172 | ..... | 159,237 | ..... | 92,050 | 5,113,459 |
| Oklahoma and Kansas | 7,060,076 | ..... | 206,523 | ..... | 229,282 | 7,495,881 |
| Texas | 11,016,366 | 589,548 | 406,612 | ..... | 301,089 | 12,313,615 |
| Louisiana and Arkansas | 3,886,092 | 707,862 | 135,906 | 76,554 | 40,754 | 4,847,168 |
| Colorado and Wyoming | 2,282,967 | ..... | 911,850 | ..... | 73,121 | 3,267,938 |
| California | 12,405,328 | ..... | 751,778 | ..... | 170,659 | 13,327,765 |
| United States total | 52,556,386 | 3,222,701 | 3,049,823 | 209,528 | 1,192,598 | 60,230,976 |
| Daily average, 10/24 | 1,695,365 | 103,958 | 98,381 | 6,759 | 38,471 | 1,942,934 |
| Daily average, 10/23 | 1,528,756 | 113,313 | ..... | 13,107 | 12,985 | ..... |
| Texas Gulf Coast | 8,271,353 | 589,548 | 287,449 | ..... | 279,052 | 9,427,402 |
| Louisiana Gulf Coast | 2,690,794 | 707,862 | 95,478 | 76,554 | ..... | 3,570,688 |

| Output and losses— | Gasoline Gallons | Kerosene Gallons | Gas and Fuel oils Gallons | Lubricants Gallons | Wax Pounds |
|---|---|---|---|---|---|
| East Coast | 127,893,810 | 49,819,773 | 228,122,527 | 26,761,376 | 13,881,505 |
| Pennsylvania | 32,083,258 | 14,759,485 | 15,648,756 | 15,445,539 | 6,615,362 |
| Indiana and Illinois | 100,674,104 | 18,298,434 | 68,588,167 | 8,437,686 | 4,973,734 |
| Oklahoma and Kansas | 131,962,584 | 34,490,543 | 131,094,628 | 7,464,414 | 3,878,190 |
| Texas | 157,070,380 | 52,630,032 | 231,358,920 | 24,436,351 | 5,139,225 |
| Louisiana and Arkansas | 52,585,453 | 22,886,485 | 77,550,736 | 3,405,501 | 3,715,903 |
| Colorado and Wyoming | 53,656,879 | 11,390,451 | 44,789,850 | 2,239,265 | 2,693,756 |
| California | 104,720,316 | 28,391,732 | 373,529,771 | 9,033,272 | 26,649 |
| United States total | 760,646,784 | 232,665,935 | 1,160,683,355 | 97,223,404 | 40,924,324 |
| Daily average, 10/24 | 24,536,993 | 7,505,353 | 37,441,399 | 3,136,239 | 1,320,136 |
| Daily average, 10/23 | 21,260,018 | 6,172,462 | 34,509,684 | 2,838,807 | 1,249,011 |
| Texas Gulf Coast | 114,261,873 | 42,900,977 | 174,414,225 | 22,880,662 | 4,824,656 |
| Louisiana Gulf Coast | 42,420,723 | 13,244,098 | 47,025,023 | 3,068,829 | 3,715,903 |

| | Coke Tons | Asphalt Tons | Other Finished Products Gallons | Unfinished Products Gallons | Losses Barrels |
|---|---|---|---|---|---|
| East Coast | 12,782 | 134,751 | 4,014,631 | 6,713,026 | 365,552 |
| Pennsylvania | 1,401 | 36 | 1,577,738 | 1,426,951 | 125,902 |
| Indiana and Illinois | 16,159 | 9,554 | 3,606,870 | 3,133,610 | 119,674 |
| Oklahoma and Kansas | 5,661 | ..... | 639,113 | 5,852,614 | 269,096 |
| Texas | 12,502 | 33,111 | 73,516 | 22,035,922 | 446,334 |
| Louisiana and Arkansas | 8,165 | 48,663 | 11,625,558 | 17,053,889 | 111,182 |
| Colorado and Wyoming | 7,598 | 4,224 | 421,516 | 17,603,569 | 86,311 |
| California | ..... | 39,806 | 7,451,676 | 20,438,792 | 162,964 |
| United States total | 64,268 | 270,145 | 29,415,618 | 94,258,373 | 1,687,587 |
| Daily average, 10/24 | 2,073 | 8,714 | 948,891 | 3,040,593 | 54,438 |
| Daily average, 10/23 | 1,816 | 8,094 | 538,334 | ..... | 51,332 |
| Texas Gulf Coast | 12,463 | 33,111 | ..... | 15,308,966 | 367,305 |
| Louisiana Gulf Coast | 7,965 | 48,238 | 7,737,964 | 13,537,469 | 73,664 |

### Stocks at Refineries in the United States

October 31, 1924

| Oils to be run to stills— | Crude Oils— Domestic | Crude Oils— Foreign | Unfinished Oils— Domestic | Unfinished Oils— Foreign | Total Oils To Be Run to Stills |
|---|---|---|---|---|---|
| East Coast | 8,440,312 | 1,134,937 | 5,779,751 | 121,022 | 15,476,022 |
| Pennsylvania | 1,356,802 | ..... | 912,622 | ..... | 2,269,424 |
| Indiana and Illinois | 1,507,741 | ..... | 1,889,605 | ..... | 3,397,346 |
| Oklahoma and Kansas | 5,283,718 | ..... | 1,479,145 | ..... | 6,762,863 |
| Texas | 6,016,815 | 469,060 | 6,136,449 | ..... | 12,622,324 |
| Louisiana and Arkansas | 4,607,402 | 1,080,757 | 1,670,624 | 198,100 | 7,556,883 |
| Colorado and Wyoming | 1,229,555 | ..... | 1,854,250 | ..... | 3,083,805 |
| California | 9,192,192 | ..... | *10,460,616 | ..... | 19,652,808 |
| United States total | 37,634,437 | 2,684,754 | 30,183,062 | 349,122 | 70,821,375 |
| United States total October 31, 1923 | 29,995,427 | 3,673,733 | 31,265,118 | 28,757 | 64,963,035 |
| Texas Gulf Coast | 4,839,359 | 469,060 | 5,607,425 | ..... | 10,915,844 |
| Louisiana Gulf Coast | 4,312,792 | 1,080,757 | 1,573,633 | 198,100 | 7,165,282 |

| Products— | Gasoline Gallons | Kerosene Gallons | Gas and Fuel Oils Gallons | Lubricants Gallons | Wax Pounds |
|---|---|---|---|---|---|
| East Coast | 222,264,817 | 72,681,516 | 211,612,680 | 86,082,604 | 39,263,745 |
| Pennsylvania | 26,727,326 | 12,104,405 | 19,872,833 | 34,185,965 | 17,861,526 |
| Indiana and Illinois | 138,773,413 | 29,012,610 | 56,814,422 | 22,343,270 | 11,219,212 |
| Oklahoma and Kansas | 107,337,922 | 25,873,245 | 122,196,712 | 16,268,586 | 8,003,674 |
| Texas | 161,121,865 | 92,684,858 | 282,720,180 | 69,697,264 | 10,151,838 |
| Louisiana and Arkansas | 103,953,898 | 31,159,577 | 118,485,608 | 8,032,585 | 4,784,211 |
| Colorado and Wyoming | 107,172,939 | 6,226,873 | 25,755,501 | 4,594,799 | 4,735,494 |
| California | 285,022,057 | 38,381,518 | 774,127,958 | 16,793,434 | 67,541 |
| United States total | 1,152,374,237 | 308,124,602 | 1,611,585,894 | 247,998,498 | 91,077,241 |
| Total U. S. 10-31-23 | 946,872,683 | 224,954,009 | 1,436,591,014 | 218,485,258 | 173,533,228 |
| Texas Gulf Coast | 147,744,011 | 79,665,159 | 220,653,671 | 58,789,751 | 10,038,282 |
| Louisiana Gulf Coast | 106,454,548 | 30,147,926 | 103,848,443 | 7,275,955 | 4,784,211 |

| | Coke (tons) | Asphalt (tons) | Other Fin. Prod. (gal.) |
|---|---|---|---|
| East Coast | 14,832 | 26,975 | 5,562,169 |
| Pennsylvania | 346 | 299 | 2,259,795 |
| Indiana and Illinois | 5,996 | 3,128 | 12,454,476 |
| Oklahoma and Kansas | 17,600 | 74 | 2,313,943 |
| Texas | 17,231 | 12,673 | †86,473 |
| Louisiana and Arkansas | 12,364 | 14,367 | 16,466,568 |
| Colorado and Wyoming | 8,443 | 4,724 | 966,033 |
| California | ..... | 15,812 | 934,771 |
| Total United States | 76,812 | 86,052 | 40,964,233 |
| Total United States 10-31-23 | 17,318 | 107,467 | 28,039,741 |
| Texas Gulf Coast | 15,231 | 12,673 | ..... |
| Louisiana Gulf Coast | 11,418 | 14,367 | 3,130,140 |

*Includes 7,577,237 bbls. of tops in storage. †Should have been 54,432 on Sept. 30, 1924.

## RESEARCH FOR PETROLEUM SUBSTITUTES

(Continued from Page 34)

manufacturing different types of charcoal gas producers for use on passenger automobiles and trucks. It has been claimed that 1,000 kilograms of charcoal could produce gas in such quantities as to be able to replace 700 kilograms of gasoline. France's consumption of gasoline, amounting to 800,000 tons a year, about 1,200,000 tons of charcoal would be sufficient to replace the total amount of imported gasoline.

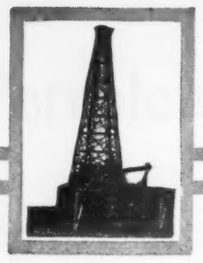
Charcoal gas is what may be properly called a national and ready fuel.

The liquid fuels, whatever they may be, heavy oils or colonial vegetable oils, may, some day, be difficult in getting; alcohol is yet too expensive a fuel, and, moreover, in case of war it would be all consumed by the powder factories. The carbonization of coal, even developed, would not be sufficient to supply all the motor vehicles with fuel, considering also, the many and various uses of benzol. On the contrary, France is sufficiently rich in forests to be able to manufacture on her metropolitan territory all the charcoal necessary to supply all her motor vehicles with charcoal gas.

Before the war France's yearly consumption of wood for heating amounted to about 12,000,000 tons. The country's capacity of production can easily be increased by at least 75 per cent. France is now producing about 150,000 tons of charcoal per year. This amount could be easily increased in very large proportions, without handicapping in the least ony of the existing industries. Charcoal is a rather cheap fuel, costing about 0 fr. 40 per kilogram. It must be expected that, as soon as it is begun being extensively used for the manufacture of charcoal gas, its price will not fail to increase. But, it is not to be forgotten that as soon as charcoal is begun to be manufactured according to modern and good industrial principles a good many quite valuable products, derived from its distillation, will help to reduce its cost price in a still larger proportion.

It really seems the best prospects of finding a gasoline substitute are to be found in the use of charcoal gas. Experiments made recently in the same direction, in Sweden, by the Scania-Vabis factories, at Malmoe, have [illegible]

Frick-Reid
Supply Company



# East Central Texas

By Staff Correspondent

**Eight wells producing 44,538 bbls. Saturday morning. Revised plans will make production of 224,000 bbls. a day easily handled. Total of 124 wells drilling, with 205 operations started, which may all be completed by January 15. Production of 100,000 bbls. expected soon.**

MEXIA, Tex., Dec. 20.—It looks as though the lid is off in the Wortham Field. Changes made in the plans of the pipe line companies entering that field will make it possible for them to handle 224,000 bbls. a day when their programs are completed. In addition to this storage is being provided in the field for over 3,000,000 bbls. There will be no reason why the producers need waste any time in getting their oil while the getting is good. The production of the field last Saturday was 23,000 bbls. a day from four wells. By Thursday it had increased to 49,500 bbls. from 8 wells.

**Production 44,538 Bbls.**

The production for the 24 hours ending with 7 o'clock this morning was 44,538 bbls. as follows: Boyd Oil Co., three wells on the Simmons farm, 18,673 bbls. and one on the Boyd farm, 775 bbls.; Penn-Atlantic Oil Producing Co. and Boyd Oil Co., one well, 8,800 bbls.; Kirby Petroleum Co., one well, 5,100 bbls.; Mrs. J. K. Hughes, one well, 7,200 bbls.; E. L. Smith, one well, 3,990 bbls.

The pipe line storage room available for the receipt of Wortham crude amounts to 5,157,000 bbls., while the storage under construction on December 15 is 3,325,000 bbls., which will give Wortham oil purchasers 8,482,000 bbls. of room in addition to the more than 3,000,000 bbls. of tankage which will be erected by producing companies in the Wortham Field.

**Pipe Line Situation**

The following table will show the conditions of the pipe line companies in the matter of gathering capacity, discharge capacity, storage at present and storage under construction:

| Company— | Gathering Capacity Bbls. | Discharge Capacity Bbls. | Storage as of Dec. 1 Bbls. | Storage Building Bbls. |
|---|---|---|---|---|
| Humble | 56,000 | 66,000 | 1,602,000 | 1,880,000 |
| Sinclair | 34,000 | *30,000 | 927,000 | ..... |
| Prairie | 44,000 | 13,000 | 600,000 | 1,445,000 |
| Texas | 35,000 | 35,000 | 241,000 | ..... |
| Pure | 20,000 | †20,000 | 701,000 | ..... |
| Magnolia | 15,000 | 15,000 | 597,000 | ..... |
| Gulf | 20,000 | 14,000 | 489,000 | ..... |
| Total | 224,000 | 193,000 | 5,157,000 | 3,325,000 |

*Sinclair's discharging capacity will be doubled if its proposed 8-inch line from Groesbeck to the Gulf Coast is built.

†Pure Pipe Line Co. will loop its line to Gulf Coast, giving it ample capacity for its needs.

The Humble Oil & Refining Co. has started to ship by tank car from the Powell Field, relieving its pipe line of 20,000 bbls. a day, which wil be available to the Wortham Field.

The Sinclair Crude Oil Purchasing Co. has steel for five 80,000-bbl. tanks left over from the Powell boom. This steel is at Mexia and is quickly available to the company if it wishes to add to its storage room there. The Sinclair Pipe Line Co. contemplates the laying of an 8-inch loop to the Gulf Coast which would require 80 miles of line and one new unit in each station on the route from Groesbeck south.

**100,000 Bbls. by New Year?**

Every drilling operation in the Wortham Field and every derrick now up will be a completed well by January 15, unless there are delays caused by fishing jobs or other trouble attending drilling. It is expected that the production by the first of the year will have reached 100,000 bbls. a day which would make Wortham the third if not the second field in the United States in point of quantity production. Long Beach, Cal., and possibly Tonkawa, Okla., will lead it.

The big drop in temperature prevalent over so much of the United States did not affect this district until yesterday. On Thursday the temperature was 57 degrees late in the afternoon, but on Friday the mercury fell to 25 degrees and it is below freezing today. There is no improvement in the water situation. A number of operations would have been started had it not been for the inability of the owners to procure water for drilling purposes.

There has been a revision in the tank program since the last review of the field. The Pure Oil Co. will erect eight 55,000-bbl. tanks at its Mexia tank farm; the Boyd Oil Co. has one 55 up and one building in its 50-tank program. E. L. Smith will build five 55s; the Sun Oil Co. four 55s, with steel now on the ground for two of these; Atlantic Oil Producing Co., five 55s on its Mexia tank farm; Simms Oil Co., five 55s at Mexia; the Humble Oil & Refining Co., 20 80,000-bbl. tanks on a new tank farm 1 mile northwest of Wortham. The other companies mentioned last week will go through with their programs as stated.

The Sun Oil Co. will have a 30-car loading rack on the Southern Pacific right-of-way between Mexia and Wortham and the Clayton Oil & Refining Co. a 30-car rack along the same railroad south of Wortham. The latter company is said to have made a deal with the Rio Bravo Oil Co. for 2,500 bbls. of crude a day. These are the only companies without pipe lines into the field that are known to be in the market for crude here.

**This Week's Crop of Wells**

The crop of wells that has been completed thus far this week are the Boyd Oil Co.'s No. 3 Simmons, sand at 2,940-83 feet, 5,500 bbls.; Boyd Oil Co.'s No. 4 Simmons, sand at 2,940-82 feet, 8,000 bbls.; Mrs. J. K. Hughes' No. 1 Simmons, sand at 2,943-82 feet, 7,500 bbls.; E. L. Smith's No. 1 Beall, sand at 2,940-92 feet, 5,000 bbls.

**Humble Posts a Price**

The Humble Oil & Refining Co. posted a price of $1.25 per bbl. for Wortham crude, effective Friday, December 19. This is the same price the company has been paying for Mexia, Richland, Currie and Powell crudes. No other company has posted a price on Wortham crude, but are buying it on the Prairie and Sinclair gravity basis, which put it in the $1.25 class.

**Wortham's Estimated Potentiality**

Early estimates on Wortham's ultimate production placed at a maximum of 60,000,000 bbls., do not seem to be unduly high when compared with results thus far in the Powell Field and the Mexia-Currie area.

Up to the close of November the Powell Field had produced 61,993,012 bbls. of which 30,597,824 bbls. was produced in 1923 and 31,395,188 bbls. in the first 11 months of 1924, and is now producing around 68,000 bbls. a day. It will be recalled that Powell, opened in January of last year, did not begin to show big production until July and the great bulk of its production came in the last six months of the year. For that reason the production for 1924 will exceed by perhaps 2,800,000 bbls. that of last year.

Mexia was opened early in the fall of 1921. It produced 5,732,016 bbls. during the last four months of the year and with Currie produced 35,347,217 bbls. in 1922; 19,896,458 bbls. in 1923 and 6,957,811 bbls. in the first 11 months of this year, a total of 67,933,502 bbls.

Richland, which broke into the picture in the first half of this year, had produced, up to the close of November, 2,732,707 bbls. The whole East Central Texas area, not including the old Corsicana Field, has produced, since the opening of Mexia, 132,659,221 bbls. The Corsicana area has produced within the period mentioned approximately 950,000 bbls. which would give the whole East Central Texas area a production of 133,609,221 bbls. in three years and one month or an average of about 130,000 bbls. a day for the entire period, with a maximum of 400,000 bbls. a day on November 13, 1923.

The Powell Field, at the close of November, contained 744 producing wells and their average production for a period of 18 months was 83,324 bbls. per well. The Mexia-Currie area contained 522 wells and for a period of three years and two months these averaged 130,141 bbls. per well. Richland had 87 wells which had averaged 31,296 bbls. in the few months the field has been producing. It was opened in the late spring of this year.

**124 Wells Drilling**

There were 30 derricks up, 51 rigged up or rigging up, 124 wells drilling, a total of 205 operations in the field on Thursday when a general round up was made. In last week's review of the field 75 wells were reported drilling. The rapidity with which wells are drilled in the field makes it of little value to give drilling depths, as with ordinary luck a well may be drilled to the sand in seven days. Wells which will either have been completed or will be near completion by the time this report is published are the Atlantic Oil Producing Co.'s No. 1 Edwards; Carter & Lytle's Nos. 1 Edwards and No. 3 Manning; Farish, Watts & Collins' No. 1 Wright; J. K. Hughes' No. 1 Crouch; Humble Oil & Refining Co.'s Nos. 1-A and 2-A Crouch; Humble Oil & Refining Co.'s No. 1 Dodd; same company's No. 2 Poindexter; Boyd Oil Co.'s Nos. 1 and 2 Ferguson; Boyd Oil Co.'s No. 2 Mrs. J. Manning; Godley Oil Co.'s No. 1 Manning; Gulf Production Co.'s No. 1 Ferguson; Humble Oil & Refining Co.'s No. 1 N. G. Ferguson; Mrs. J. K. Hughes' No. 2 Simmons; Harry Moss' No. 1 Simmons; Pure Oil Co.'s Nos. 1 and 2 Bounds; Rio Bravo Oil Co.'s Nos. 1 and 4 Houston & Texas Central right-of-way; Strube & Strube's No. 1 Lindley; Simms Oil Co.'s Nos. 1-A, 2-A and 3-A Simmons; Simms Oil Co.'s No. 1 Calume; E. L. Smith's No. 1 Edwards; Southern Exploration Co.'s No. 1-A Wright, a total of 29 operations, some of which may be reported in before this is published.

**Review of Operations**

The review of field operations as of Thursday was as follows:

The Atlantic Oil Producing Co. and Penn's No. 1 Simmons, drilling at 1,620 feet in shale.

Boyd Oil Co.'s No. 1 Ferguson, 2,171 feet in shale; No. 2, drilling in chalk, 2,457-2,548 feet; No. 4, surface casing set at 61 feet; No. 5, surface casing set; No. 6, drilling at 667 feet; No. 7, rigging up; Nos. 8 and 9, derricks up; Nos. 10 and 11, rigging up; No. 14-B Smith, rigging up; No. 1-B W. D. Wilson, drilling at 240 feet; No. 1-A W. D. Wilson, surface casing set; No. 5-A, derrick up; Nos. 3-A and 4-A rigging up; No. 1-A W. E. Smith, drilling at 1,320 feet; Nos. 2-A and 3-A, rigging up; No. 2 Mrs. J. Manning, white chalk at 2,419-69 feet, chalk rock at 2,469-92 feet; No. 3 derrick.

Collins & Wheelock's No. 1 Smith, drilling at 1,852 feet; No. 2, waiting for water.

Godley Oil Co.'s No. 1 Manning, chalk at 2,341 feet; drilling at 2,350 feet; No. 2 rigged up; No. 1 Ferguson, drilling at 1,520 feet; No. 2, derrick.

Gulf Production Co.'s No. 1 Ferguson, chalk at 2,288-2,309 and 2,309-2,359 feet; No. 2, drilling at 956 feet; No. 3 drilling at 1,320 feet, small gas showing; No. 4 rigged up; Nos. 1 and 2 Wilson, waiting for fuel; No. 3, rigging up; No. 4, a derrick; No. 1 Lindley, drilling at 1,924 feet; No. 2, drilling at 704 feet; No. 3, rigging up.

Humble Oil & Refining Co.'s No. 1 Crouch, drilling at 1,515 feet; Nos. 2 and 3, derricks; No. 1 N. C. Ferguson, chalk at 2,421 feet, drilling at 2,463 feet in chalk; No. 2, derrick; No. 1-A N. H. Lindley, chalk at 2,500-91 feet, drilling at 2,601 feet; No. 2-A drilling at 1,100 feet; Nos. 3-A, 4-A, 5-A and 6-A, derricks; No. 1-B N. H. Lindley, drilling at 1,288 feet; No. 2-B, drilling at 1,263 feet; No. 3-B, waiting for water; No. 4-B, derrick; No. 1 Lizzie Manning, waiting for water; No. 2 setting up boilers; No. 4, derrick; Nos. 3, 5, 6 and 7, locations staked.

**Shallow Gas Showing**

Mrs. J. K. Hughes' No. 2 Simmons, shut down at 2,285 feet; No. 3 drilling at 1,210 feet, gas showing; No. 4, drilling at 800 feet; No. 1 Henry Seals, rigged up.

Kirby Petroleum Co.'s No. 1 Wasson, drilling at 620 feet; No. 2, rigging up; No. 3, drilling at 900 feet; No. 2 Bounds, drilling at 240 feet; No. 3, rigging up; No. 4, derrick.

Magnolia Petroleum Co.'s No. 1 Boyd, drilling at 1,424 feet; No. 7, drilling at 1,360 feet; No. 8, drilling at 200 feet; No. 9, drilling at 1,416 feet; No. 10 spudding in; No. 11, set surface casing; No. 13, drilling at 990 feet; Nos. 2, 4, 5, 12, 15 and 16, derricks; Nos. 3, 6 and 10, rigged up.

Murchison & Fain's No. 1 Simmons, shut down for water.

Harry Moss' No. 1 Simmons, drilling at 2,500 feet in shale.

Pure Oil Co.'s No. 1 Bounds, set cement at 2,879 feet; No. 2 Bounds, chalk at 2,360-80 feet, drilling at 2,560 feet; No. 3, spudded in; No. 4, shut down.

Rio Bravo Oil Co.'s No. 1, Houston & Texas Central right-of-way, running 6⅝-inch casing at 2,845 feet; No. 4, drilling at 2,147 feet.

Republic Production Co.'s No. 1 Gunter, waiting for water.

Eastland Oil Co.'s No. 1 Peyton, drilling at 650 feet.

Ray & Massie's No. 2 Seals, ready to spud.

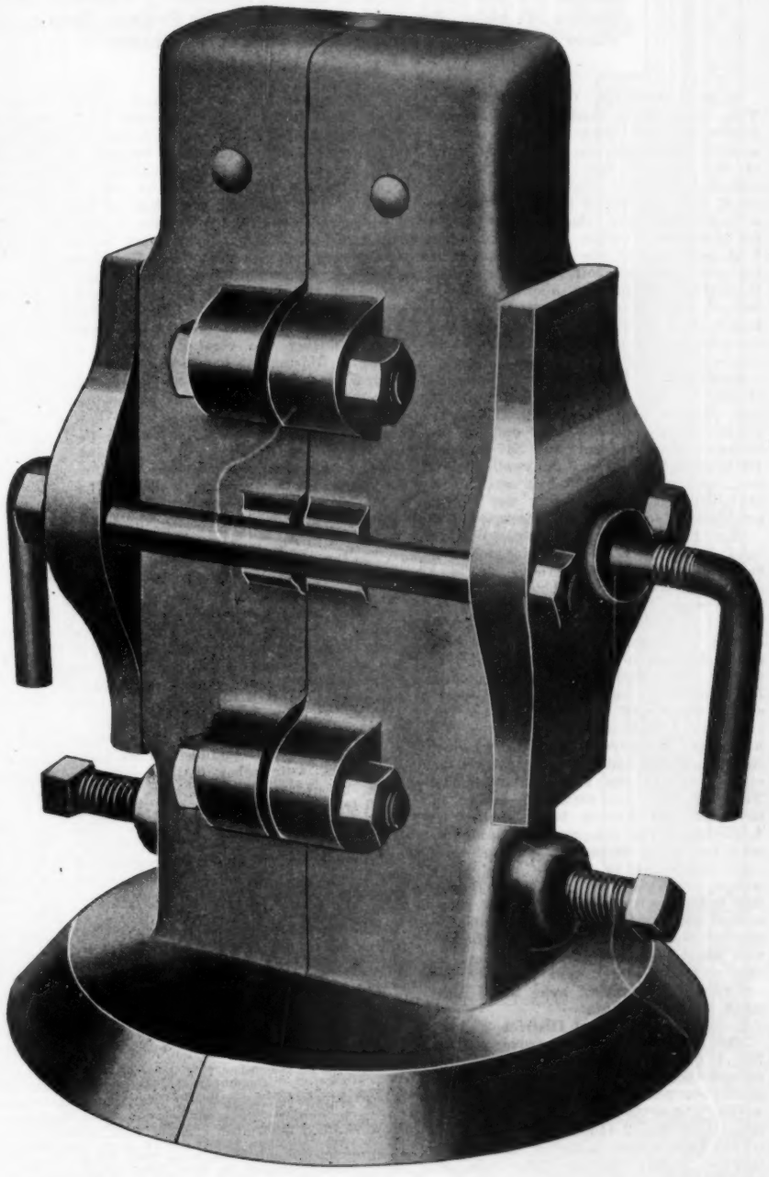
Strube & Strube's No. 1 Lindley, drilling at 2,840 feet.

Simms Oil Co.'s No. 1 Manning, drilling at 1,989 feet; No. 2, drilling at 1,430 feet; No. 3, drilling at 180 feet; Nos. 4, 5 and 6, rigging up; No. 1-A Simmons, hard chalk at 2,265-86 feet, chalk and lime at 2,286-2,318 feet; No. 2-A, chalk at 2,387-2,461 feet; No. 3-A, running casing at 2,874 feet; No. 5-A, drilling at 645 feet; No. 4-A, drilling at 400 feet;

(Continued on Page 96)

# IMPROVED DOUBLE ROLLER OIL SAVER

## Permits the Changing of the Rubbers without the loss of any Oil



For the wells of the strongest pressure.

The ease with which new rubbers can be inserted in the Improved Roller Oil Saver is remarkable.

The drilling operations do not need to be stopped and there is no loss of oil.

On wells of great pressure its superiority is easily apparent. The auxiliary rubbers are clamped tight to the line and the change to new rubbers is made quickly without loss of time or oil.

This is another one of the beneficial improvements which this company has added to the petroleum industry.

We shall be glad to send you a circular fully describing this new addition to our line of Standard Equipment.

THE OIL WELL IMPROVEMENTS CO.
Tulsa, Okla.

# California Field Operations

By L. P. Stockman

**Barnsdall Co.'s No. 2 O'Dea, Rosecrans, comes in barefoot at 600 bbls. and jumps to 2,500 bbls., but will have to recement. Marland Co.'s No. 1 Maxwell makes 301 bbls. Associated Co.'s No. 3 De Francis, Dominguez, largest producer in State, puts 6,000 bbls. in tank first 24 hours.**

LOS ANGELES, Calif., Dec. 20.—Two wells were finished at Rosecrans during the past week but only one remained on production. No. 1 Maxwell of the Marland was the first of this company's quartet of drillers to be finished, although No. 2 is in the oil sand at 4,500 feet and should make a bid for production within two weeks. No. 1 Maxwell looked like a gasser for some time but eventually oil replaced the gas. It started off making about 6,000,000 feet of gas and practically no oil. Oil began showing the day after the well came in, and it gradually increased and reduced the gas production. Flowing through a ½-inch bean under a pressure of 620 pounds, it is today making 301 bbls. of clean 37.6 gravity oil. The completion depth was 4,707 feet and the oil string, a 4¾-inch, carrying 347 feet of 100-mesh screen. No. 3 Maxwell, standing recemented at 4,125 feet and No. 4 at 3,889 feet will probably not be on production for at least 30 days.

The Barnsdall ran into some more hard luck on its O'Dea lease. No. 2 came in barefoot a few days ago and started off flowing 600 bbls. A heavy gas pressure built up and the production jumped to 2,500 bbls. of clean 41.8 gravity oil. The latter flow was made through a 1-inch bean under a pressure of 800 pounds. The well was opened up today for three hours and in this short period a good water well was developed, the cut running as high as 40 per cent. The heavy gas pressure apparently wrecked the cement job and the company will be obliged to kill the flow and recement. There is only one string of casing in the hole, the 10-inch being landed at 4,125 feet. The company will undoubtedly run in a string of 8¼-inch and make an effort to exclude this water within a week or 10 days. The Barnsdall is faced with a rather difficult proposition as it seems nearly impossible to prevent forcing cement into the formation while cementing under pressure. If this occurs the well will probably not be good for anything near 2,500 bbls. upon its recompletion.

### Irregularity of District

The fish has just been recovered from No. 1 O'Dea and this hole, which has caused the company no end of trouble, should be put in shape for production within a few days. The large production which No. 2 O'Dea registered illustrates quite clearly some of the irregularities in this district. The hole offsets No. 1 Gray of the Union, a 350-bbl. well, to the west. These two holes are only about 350 feet apart but this distance represents 350 bbls. a day in one instance and 2,500 bbls. in the other, as both were finished at approximately the same depth.

The Associated has carried No. 1 Brockley, 350 feet north of No. 1 Gray, to 5,003 feet, indicating a very deep pitch at this point, and another peculiar characteristic. A similar condition exists in the western part of the field as shown by the logs of No. 1 Amestoy of the General Petroleum and No. 1 Trust of the Union. No. 1 Amestoy is in a sandy shale at 6,409 feet, while No. 1 Trust is at 5,801 feet. Showings found in both indicate a difference of about 500 feet structurally. None of the outposts in the southern part of the field afforded any encouragement and it begins to look as though the southern limits have been pretty well established. No. 1 Gordon of the Union shows 5,514 feet of hole and there was little change in well No. 23 of the U. S. Royalties or No. 1 Rowell of the St. Helens. No. 1 Athens of the Sentinel, northwest of the field, is being watched very closely and, while it looked very good a week or so ago, a core just taken at 5,247 feet does not look so encouraging. The sample indicated the formation to be a shale streaked with gray sand. The company will probably be in a position to make a test during the coming week as a string of 6¼-inch is now being run.

E. J. Miley's No. 1 Athens has shown such a substantial reduction in production that he killed the flow in order that the hole may be deepened. Neither the Shell nor Pan American made any material progress during the week, the former being held up with a fishing job in No. 1 Leonis and the latter attempting to straighten the hole in No. 1 Anderson.

### Dominguez

The Associated's No. 3 De Francis put Dominguez in the limelight during the week and a check shows that this well is by far the largest producer in the State at present. It was drilled to 4,277 feet and, although it started off doing 5,500 bbls. a day, it tanked 6,000 bbls. during the next 24 hours. The oil, which is clean and tests 30.6 degrees, is flowing through a 1 18/64-inch bean under a pressure of 320 pounds. The Associated has four other drillers on this lease, in proven territory, No. 1-B at 3,816 feet, No. 2 at 4,145 feet. No. 5 at 3,400 feet and No. 6 at 3,670 feet. Had not the Associated finished such a large well, the Shell would have carried off the honors as this company brought in two new producers on the Reyes lease good for 6,755 bbls. in the aggregate. No. 17 was the first to be finished but it was followed a short time later by No. 16. The former was the deepest and larger. It was drilled to 4,411 feet and finished with a 6¼-inch oil string carrying 394 feet of 60-mesh screen. Flowing through a 1⅛-inch bean under a pressure of 760 pounds, it registered an initial output of 3,546 bbls., the oil being clean and testing 30.4 degrees. No. 16, flowing through a 1¼-inch bean under a pressure of 540 pounds, came in doing 3,209 bbls. of 30.4 gravity oil which cut 2.5 per cent. It was completed at 4,100 feet and finished with an 8¼-inch oil string carrying 397 feet of 60-mesh screen. No. 17 offsets No. 5 De Francis of the Associated on the west and No. 1 Dominguez of the Marland on the north. No. 16 Reyes is one of three offsets to No. 1-B De Francis, a driller. On the Manuel property adjoining the Associated's De Francis lease on the east the Shell has three good prospects in Nos. 1, 2 and 4. The latter is in the oil sand at 4,000 feet but No. 2 is experiencing water trouble at 3,975 feet. No. 1, a second line offset, is having pipe trouble at 4,479 feet. All three, however, look good for early completions. On the Reyes lease, No. 20, now at 4,101 feet, looks like the Shell's next producer on this property.

The United ran into bottom water in No. 2 Dominguez at 4,442 feet and will have to plug back to around 4,425 feet. Nos. 3 and 4 on this lease are just getting under way, the former at 695 feet and the latter at 2,809 feet. Both No. 7 Callender and No. 2 Carson of the Union look good for commercial production. The Marland got a wet job on No. 4 Dominguez at 4,377 feet and will be obliged to recement the 6¼-inch. Neither No. 5 at 3,245 feet nor No. 6 at 2,125 feet is deep enough to pick up the pay. The General Petroleum is abandoning No. 2 Gardena as a duster. It was originally drilled to 5,000 feet and plugged back by stages to 4,200 feet. Although the General Petroleum once held the greater part of the field under lease it now has but one well good for about 75 bbls. a day. Several years ago this company held nearly all the present leases of the Union, Shell and Associated Oil Companies, but pulled out after the Standard got a dry hole, without testing. Its present leases and development work have cost the company well over $1,000,000.

### San Joaquin Valley

Development work in the San Joaquin Valley during November showed a little improvement over October. There were 13 wells finished at Midwest-Sunset, 1 at Kern River, 4 at Elk Hills and 2 in the Coalinga Field, these 20 wells being responsible for 4,450 bbls. of the total new production added during the month. It is interesting to note that the Midway-Sunset area is credited with the largest number of producing wells and the greatest number of new rigs erected during November and its 70 wells drilling during this period far exceed the number for any other single district. In the Maricopa section of the Midway-Sunset area all of the new wells were small but they were fairly good ones considering completion depth was comparatively shallow. The Surprise Oil Co.'s well No. 10, Section 36-32-23, was a 70-bbl. pumper of 14.1 gravity oil from 1,298 feet. The Standard's No. 55 M. J. M. & M. was good for 150 bbls. of 14.7 gravity oil from 2,340 feet. The latter company has erected two new rigs on this property, Section 36-12-24, and either No. 56 or No. 57 will be spudded in during the coming week. The company has also erected a new rig for No. 27 Maricopa, Section 1-11-24, and work will also probably be started on this new hole.

The General Petroleum secured a 25-bbl. pumper on its Sunset lease, Section 18-11-23, when No. 314-B was put on the beam at 768 feet. The company also listed one abandonment on this property, a driller, No. 226-A, which was given up at 1,428 feet. On Section 12-11-24, the company started a new well, No. 70-A, which is making hole at 783 feet. A shallow producer is expected and its completion will probably be recorded within the next two or three weeks. On the Midway lease, Section 35-12-24, the General Petroleum has one active driller, No. 396, making hole at 2,125 feet, and a new rig, No. 395, which will undoubtedly be spudded in upon the completion of the former. A mile away, on Section 34-12-24, the company has four rigs which have been standing for several months, but, judging by present indications, no immediate use will be made of them. The Pacific is only running two strings of tools in this field, No. 11 on Section 3-11-23, which is going ahead at 4,692 feet, and No. 11 on Section 35-32-23, which is making hole at 3,830 feet. The Associated has 10 suspended drillers on several different properties at various depths but, due to the company's heavy production and large purchases in southern California, no immediate work is anticipated. The Calavada has a nice looking hole on Section 34-32-24 and its well No. 2, now at 4,000 feet, should be on production within 30 days. No. 1 on this lease, completed several months ago, made 952 bbls. yesterday and averaged a little less than this amount for the entire month of November. The Border Oil Co. is making good progress with No. 10 on Section 2-11-24 and, since the company has erected a new rig for No. 11, an early completion is apparently expected. The Union is working on one new hole, No. 3 on Section 4-11-23, and about a 150-bbl. well is looked for.

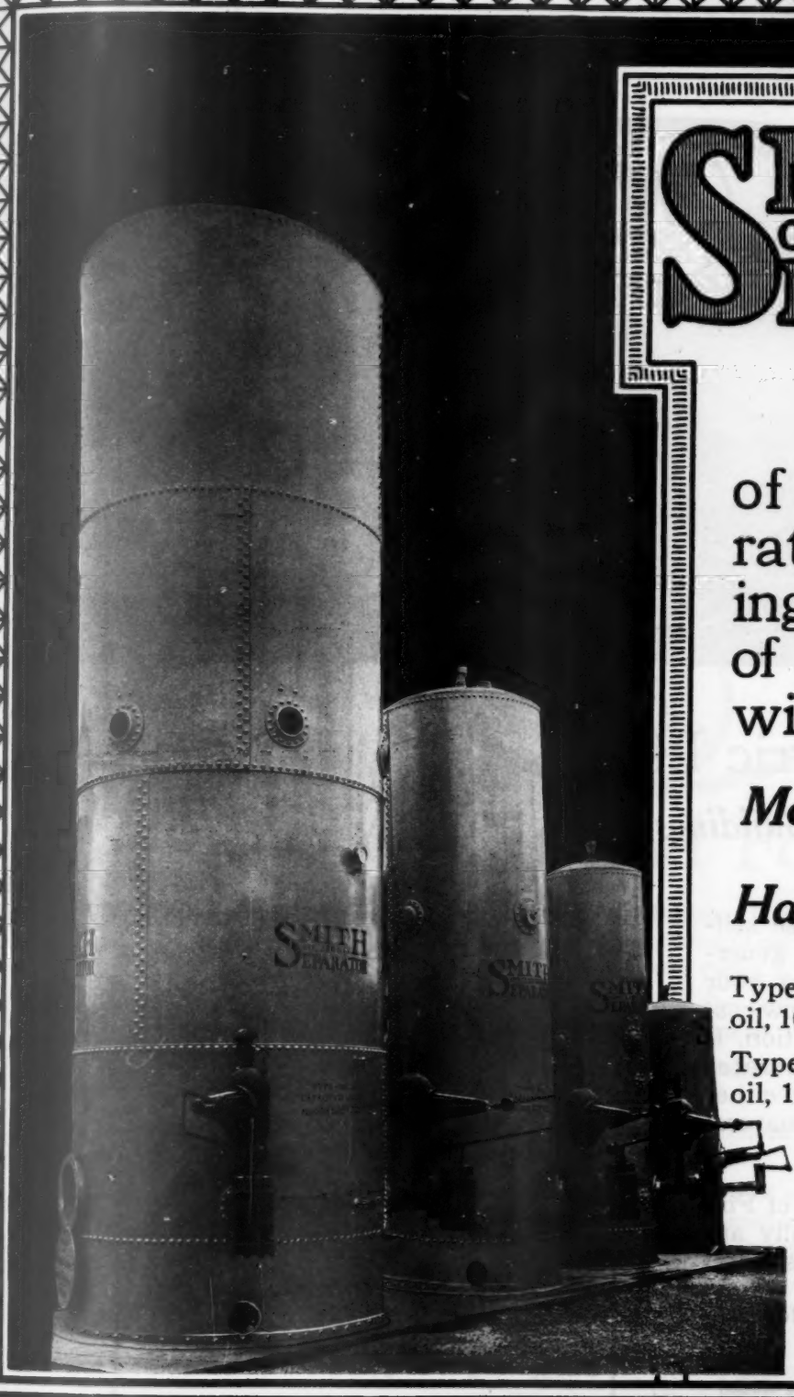
### Midway Section

In the more productive Midway section of the Midwest-Sunset district there were 10 new wells put on production, most of which were good ones. The largest producer added during the month was the Pacific Oil Co.'s No. 24, Section 33-21-24. It was drilled to 4,515 feet and tanked 1,085 bbls. of clean 27.1 gravity oil during the first 24 hours. No. 57, now at 4,310 feet, should further increase the company's production on this property as it should be finished within two or three weeks. The Pacific is doing the largest amount of development work of any company operating in this

### TANKER SHIPMENTS FROM LOS ANGELES TO ATLANTIC AND GULF COAST PORTS

Following is a list of tankers, date departed, destination, kind of cargo and amount in barrels:

| | |
|---|---|
| J. C. Donnell, December 9, Philadelphia, crude | 102,171 |
| Wm. Rockefeller, December 10, New York, crude | 137,160 |
| Agwimex, December 10, Baltimore, crude | 95,232 |
| H. M. Storey, December 11, New York, crude | 106,480 |
| Byron D. Benson, December 13, New York, crude | 85,078 |
| D. G. Scofield, December 13, New York, crude | 76,196 |
| District of Columbia, December 14, New York, crude | 74,492 |
| Bethelridge, December 14, New York, crude | 72,119 |
| Agwiworld, December 14, New York, crude | 75,768 |
| **Coastwise** | |
| R. J. Hanna, December 8, Portland, fuel | 77,095 |
| U. S. Tanker Cuyama, December 8, Seattle, fuel | 58,167 |
| D. G. Scofield, December 8, Richmond, crude | 80,010 |
| Lebec, December 9, Portland, fuel | 66,949 |
| Chrlie Watson, December 10, San Diego, refined | 16,635 |
| Los Angeles, December 10, Martinez, crude | 74,142 |
| Yorba Linda, December 10, Seattle, refined | 62,911 |
| Lubrico, December 10, Richmond, crude | 84,972 |
| Wm. F. Herrin, December 11, Avon, crude | 47,566 |
| W. S. Miller, December 11, Richmond, crude | 75,140 |
| Dilworth, December 11, Portland, fuel | 62,745 |
| J. A. Moffett, December 12, Richmond, crude | 64,386 |
| Deroche, December 12, Vancouver, fuel | 76,238 |
| Charlie Watson, December 13, Tacoma, refined | 14,938 |
| Frank H. Buck, December 13, Avon, crude | 63,560 |
| Utacarbon, December 13, Oleum, crude | 76,277 |
| W. S. Miller, December 14, Richmond, crude | 73,729 |
| Lubrico, December 14, Richmond, crude | 86,734 |
| **Exports** | |
| Anatina (Br.), December 8, Balboa, fuel | 45,214 |
| Mina Brea (Br.), December 9, Vancouver, crude | 45,353 |
| El Grillo (Br.), December 11, Chile, fuel | 66,195 |
| Tachibana Maru (Jap.), December 13, Japan, fuel | 55,614 |
| J. B. August Kessler (Dutch), December 14, Japan fuel | 45,870 |
| **From San Francisco** | |
| Richmond, December 8, Astoria, fuel | 63,714 |
| India Arrow, December 9, Shanghai, refined | 87,548 |
| Yankee Arrow, December 12, Woosung, refined | 94,638 |
| **From Port San Luis** | |
| La Placentia, December 10, Oleum, crude | 78,473 |
| Cathwood, December 13, Oleum, crude | 79,119 |

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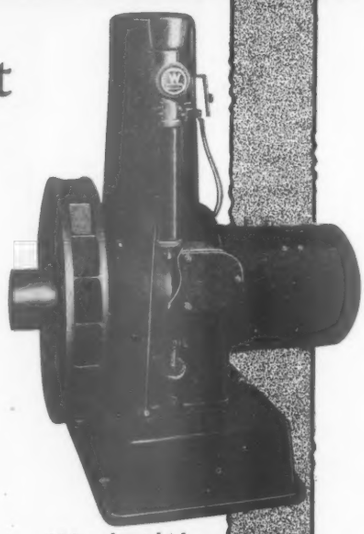

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immediate area and the 10 holes it is drilling will undoubtedly result in additional completions during the next few months. The company only secured a 75-bbl. pumper on Section 27-31-23, when No. 35 was put on the beam at 3,319 feet, but the oil was of a good grade and tested 29.2 degrees. Four holes are under way on Section 31-31-24 and, since there are three new rigs standing, further work is contemplated after the completion of four holes being drilled at present. Additional work will probably also be undertaken on Section 5-32-24, as evidenced by the erection of two new rigs.

The Midland Oilfields added 900 bbls. to its daily production as the result of the completion of two flowing wells. On Section 24-31-23 the company finished a 470-bbl. well, when No. 12 was given a test at 3,859 feet. No. 3 on Section 34-31-24 was good for 430 bbls. of 26.9 gravity oil from 4,235 feet. No. 1-B on this same property at 4,420 feet is getting quite deep but there is still a good chance of finishing it as a commercial producer. The North American is concentrating its development work on Section 30-31-24, a Government lease, and, in addition to finishing a 790-bbl. flowing well, made good footage in the three additional holes being drilled. The company's successful completion was No. 11, which came in from 3,870 feet. The company's three drillers on this lease at present are No. 12 at 3,205 feet, No. 13 at 3,340 feet and No. 14 at 911 feet. Two new rigs have been erected for additional work, which will probably be undertaken upon the completion of the three holes now being drilled.

**Small Pumpers**

The Interstate Oil Co. only got a 50-bbl. pumper upon the completion of No. 11 on Section 15-32-23, but it came in from the shallow depth of 2,649 feet. The Brookshire Oil Co.'s well No. 13, Section 24-31-22, was also a small pumper and a shallow completion. It was good for 75 bbls. of 20.8 gravity oil from 2,536 feet. Upon the completion of No. 13, the crew was transferred to No. 14 and this new hole started. The Honolulu is doing considerable work on a Government lease, Section 6-32-24, and, in addition to completing one new well, is drilling four others. The company's No. 57 was brought in doing 450 bbls. a day of 29.1 gravity oil from 2,950 feet. The crew from this rig was immediately transferred to No. 27 and 775 feet of hole has since been made. The Honolulu also finished a good flowing well on Section 4-32-24 by bringing in No. 71. It was good for 380 bbls. of clean 27.4 gravity oil from 3,882 feet. The Balboa's No. 31, Section 24-31-23, was good for 645 bbls. of 26.7 gravity oil from 3,758 feet.

Work at Coalinga was only productive of two wells during November, both unusually small. On Section 14-20-14, the Salvia completed a 10-bbl. pumper of low gravity oil from 665 feet. The Premier's No. 25, Section 24-20-14, was only good for 5 bbls. from 1,355 feet. Very little work is being done in this district and the completions during the next few months will therefore be negligible. Kern River is in much the same position, there being only four drilling wells of any consequence in the field itself and upon completion they will all undoubtedly be small. The Wimar Oil Co. finished a 15-bbl. pumper in this field on Section 20-28-28, when No. 5 was put on the beam at 950 feet. The Marland Oil Co. is making good progress with its well No. 2 on Section 16-28-27 and this hole, now at 710 feet, should be a small commercial producer.

There were no producers finished at McKittrick during November, although the Union's No. 1 Wisecarver has since been put on a production test and looks good for about 25 bbls. a day. Because of the depth, however, there will probably not be any further drilling for the present. There are only five strings of tools in operation in this district and no unusually large completions are anticipated.

**Elk Hills**

Only one of the four producers finished at Elk Hills during the past month was of any consequence. The field's banner well was the Belridge Oil Co.'s No. 6, Section 34-30-24. It was finished at 2,978 feet and made 2,240 bbls. of 20.2 gravity oil during the first 24 hours. Judging by indications, the company is destined to finish another good producer in No. 7 on the same lease, now at 2,880 feet. The Pacific finished two holes, Nos. 6 and 34 on Section 35-30-24. The former pumped 120 bbls. of 20.9 gravity oil from 2,985 feet, while the latter was good for 80 bbls. of 17.1 gravity oil on the beam from 3,146 feet. The Pacific has four other holes on this property all nearing completion and No. 5 at 2,815 feet, No. 8 at 2,930 feet, No. 91 at 2,910 feet and No. 103 at 2,978 feet should be on production shortly. The company will doubtedly continue work, however, in developing this property, in view of the fact that six rigs have been erected. The Pan American drilled No. 6 on lease H, Section 1-31-24, to 3,065 feet, but was only successful in securing a 100-bbl. pumper, the oil testing 21.8 degrees. No. 3 on Lease I and No. 12 on Lease L, however, should both be larger wells. The Standard is drilling three holes in this field, Nos. 17 and 20, on the Kern County lease, Section 31-30-25, and No. 43 Tupman, Section 36-30-24, all in proven territory. There were no wells put on production in the Lost Hills-Belridge area during the past month and, since there are no active drillers, there will be none recorded for some time. There is considerable shut-in production in this district, as the result of the still heavy output in southern California.

**Torrance**

The Chanslor-Canfield Midway Oil Co., with two new wells to its credit, headed the completion list at Torrance during the past week and accounted for 252 bbls. of the total new production added during this period. The company's No. 9 Del Amo was a 132-bbl. pumper from 3,650 feet, the oil testing 16.8 degrees and showing a cut of 3 per cent. It was finished with an 8¼-inch oil string carrying 645 feet of 80-mesh screen and 3,005 feet of 3-inch tubing. The company's No. 76 Torrance was a 120-bbl. pumper from 3,698 feet. This well is producing clean 24.6 gravity oil. The company has established a new record at Torrance for deep drilling and, although its No. 1 Francis shows 6,511 feet of hole, it is still dry. The log of the well shows the last 1,000 feet to be a sticky brown shale. The Lora J's deep test, No. 1 Lomita, is still held up because of water trouble and, since an attempt is being made to locate the point of entrance, no additional footage was made during the past week. The Shell, searching for deep production, has carried No. 2 Kettler down to 5,352 feet but has not yet found favorable indications. This company listed one abandonment and one completion during the past seven days, the lost hole being No. 1 Keystone at 3,842 feet and the new producer, No. 2 Frenger, drilled to 3,480 feet. The latter was a small pumper making 48 bbls. of 16.2 gravity oil which cut 5 per cent.

The Standard's No. 28 Marble fee made 172 bbls. on the beam during the first full day's test, the oil testing 23.1 degrees and cutting 2 per cent. The company's new well was drilled to 3,740 feet and finished with a 6¼-inch liner, including 545 feet of shop perforated. This hole only required 3,168 feet of 8⅝-inch, a 675-foot liner and 2,605 feet of 2½-inch tubing. The Standard has four more drillers on this lease which look good for early production, Nos. 29, 30, 31 and 32, and has a rig standing for No. 33.

The Superior finished a 170-bbl. well, when No. 55 Torrance was given a test, the oil testing 18.2 degrees and showing a cut of 3 per cent. This new well, drilled to 3,832 feet, was finished with an 8⅝-inch oil string carrying 270 feet of 60-mesh screen. The General Petroleum's No. 20 Poggi, offsetting the Consolidated Mutual's No. 1 Campbell, is being prepared for production at 3,750 feet and will probably be put on a test within a few days. The company, in the meantime, however, is going ahead with Nos. 2 and 4 and will probably spud them in before the completion of its first producer on this lease. The Petroleum Securities (Doheny) has two wells on Kleinmeyer Lease A, Nos. 14 and 32, about ready to be put on a production test and will probably finish them during the coming week.

**Long Beach and Huntington**

The past week was an unusually quiet one for Long Beach, since there were no new producers completed nor any new wells started. During November, Long Beach averaged approximately 129,000 bbls. a day, compared with a production of 45,500 bbls. daily at Torrance. Both fields during December will register small declines. Huntington Beach averaged 40,700 bbls. during the same period. There were very few developments of interest in the latter district during the past seven days as both field development and production work has become stabilized. Judging by indications, the General Petroleum will finish No. 3 Dabney as a small pumper within a few days and it will probably be good for around 150 bbls. The Shell, after working fora long time with No. 2 Huff, has decided to pull out and is accordingly filing an abandonment notice with the State Mining Bureau of Mines reporting the last depth as 4,877 feet. The Standard is resuming drilling in earnest and its present efforts recall some of the company's early development work in this area. The Bolsa Chica lease shows two drillers, Lease A, 4; Lease B, 6; and Lease E, 2. On the Bolsa Chica property, No. 18 has been showing up unusually well during the past two weeks and the oil sand now present at 4,362 feet looks good enough to warrant a commercial producer. None of the holes on Lease A or B look good for immediate production, since they are not yet deep enough, but well No. 9 on Lease E looks like a shallow producer at 2,650 feet.

**Miscellaneous Drilling**

The St. Helens Petroleum has finally succeeded in finishing No. 1 Mulholland as a producer at Montebello. The well was originally drilled to 4,465 feet but water trouble necessitated the plugging back by stages to 3,950 feet, from which depth it is now pumping 25 bbls. a day. The oil tests 24.6 degrees but is cutting about 6 per cent. The Standard's No. 1 Patton at Rideout Heights has passed the 5,660-foot level and it looks like an early abandonment. The same company's No. 21 Home in the old Whittier Field is drilling ahead in a hard sandy shale at 3,427 feet. The Capital's test at Richfield has reached a depth of 1,980 feet and this hole looks unusually good, as it has encountered several surface showings to date. The Union has decided to test out the deep sand recently found by the Chicksan Oil Co. at Richfield and has selected No. 1 Coyle & Bogue for the attempt. This well is at present only a small producer making around 20 bbls. a day from 4,123 feet.

Both the Standard's deep tests, No. 1 Potter-Smith at 5,300 feet, and well No. 1 on Los Angeles Investment Lease No. 2 at 4,655 feet, in the Inglewood area, are still carried on the active list, although the latter is in a bad mechanical condition. The company is reaming No. 1 Stocker at 3,006 feet and is preparing to set a surface string in No. 1 Vickers at 909 feet. No. 3 on Los Angeles Investment lease No. 1 is being bailed for a water test at 1,640 feet, the completion depth to be around 2,000 feet. The Pan-American is going ahead in No. 1 Sentous at 1,400 feet, the formation being a sandy shale. The Pacific is building a road and grading for No. 2 Baldwin but will probably not be in a position to begin rig construction for another week or so. The Shell is putting the finishing touches on the rig for No. 3 Bryant at Seal Beach and will spud in within 10 days. No. 1 on this property is doing about 60 bbls. of oil and 1,500 bbls. of water, while No. 2 is drilling ahead at 4,000 feet. No. 1 Bixby, drilling in a sticky shale at 5,770 feet, however, is still dry. The Shell's Bell wildcat, No. 1 Loomis, shows 5,410 feet of hole, with little chance of securing commercial production. The same company's No. 1 Virginia at Los Cerritos, northwest of Long Beach, is drilling in a hard sand at 3,730 feet.

The Wilshire Oil Co. is making good progress with its second test at Bandini and reports 4,350 feet of hole. Beatty Oil Co.'s No. 1 Calwin at Eagle Rock is drilling ahead at 4,867 feet in what is reported to be a decomposed granite. This hole was condemned by several geologists before work was started and their deductions have so far been correct, the granitic formations through which it has passed precluding the possibility of even

(Continued on Page 96)

# Rocky Mountain Area

By F. B. Taylor

CASPER, Wyo., Dec. 20.—A blizzard and low temperatures are reported from the oil fields of the Rocky Mountain region. Casper's thermometers are now at 10 below and falling and the last cars through the mountain passes report that the drifts are closing these roads to travel. Lavoye in the Salt Creek Field reports a shortage of gas for heating and domestic use and Shelby in the Sunburst Field of Montana had its supply cut off by freezing of water in the line and that city is now without gas and the thermometer below zero.

Thanks to the new highway through the Wind River Canyon of the Big Horn Mountains, the road from Casper to the Big Horn Basin is easy travel and the fields in the Basin country can be reached with but little inconvenience. The old trail over Birdseye Pass has been abandoned and the new road is not expected ever to be closed by snow. Whisky Gap through the Ferris Mountains is reported closed and the Alcova Mountain road is also reported closed. The Shirley Basin road around the east end of the Shirley Mountains can still be made by driving in low gear and bucking drifts but travelers over this route are warned to carry food and means to provide fire in case of breakdowns for there are long stretches of many miles across wind swept plains without habitation of any kind.

The new electric plant of the Midwest at Salt Creek is gradually approaching the full load; the current is now being sent over the wires from the central plant to the step-down stations scattered over the field from which points it is taken to the motors at the wells. So far the work has proven the new system for operating the wells to be much more economical than the older steam method. Oil men who have watched the plant building express the opinion that it will revolutionize the whole industry in the matter of pumping and handling wells in the field, if the intricate machinery used can stand up to the strain of daily work. So far there has been no indication of failure from this cause.

**Oppose Gasoline Tax**

The Rocky Mountain Oil & Gas Association went on record at a special meeting of the Board of Directors held at Casper as being opposed to any tax increase at this time in this region by the States. This is taken to mean that the association is strongly opposed to the proposed tax on gasoline advocated by the Wyoming Highway Department and other organizations. This tax would be laid upon gasoline at filling stations to provide for the building of highways in Wyoming and would amount to about 2 cents per gallon. There is a tax of 1 cent per gallon in Wyoming now. The oil business has built more than its share of the present highways of Wyoming.

The board of directors also voted to appoint a legislative committee to look after legislation relative to the oil business as the signs point to much activity in this direction. The committee has not yet been named as President B. B. Brooks is away.

**Illinois Pipe Line Runs**

The Railroad Commission of Montana has given out the pipe line runs of the Illinois Pipe Line Co. from the Sunburst

(Continued on Page 111)

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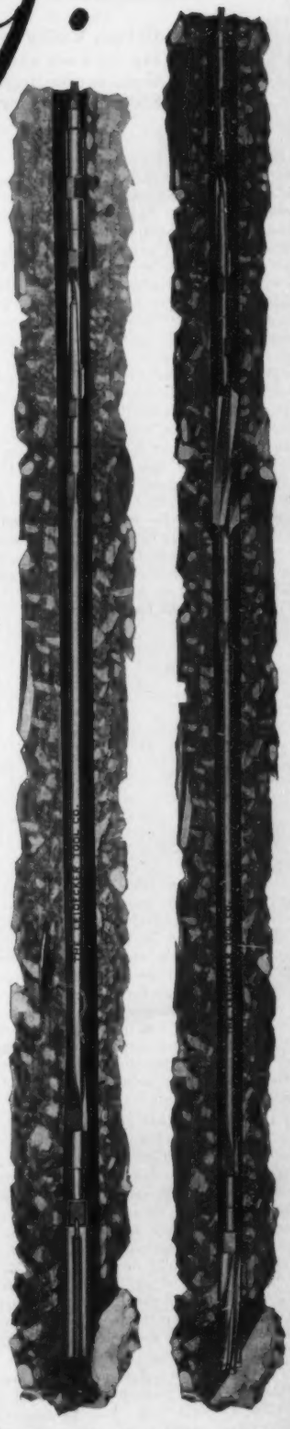

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# North Louisiana-Arkansas

By M. L. Vaughn

**Cotton Valley production declining despite new wells. North Louisiana holding its own and improvement expected in coming month. Arkansas completions increasing steadily. Monroe gas pressure declining. State to sue for $300,000 conservation tax on gas illegally withdrawn.**

SHREVEPORT, La., Dec. 20. — At least a halt was called in the toboggan slide of production figures during the last week, the general improvement in conditions being reflected in the fact that the output of the field was within 126 bbls. of that of the previous week. Cotton Valley production continues on the down grade, despite the new wells that are being brought in every week, but most districts in North Louisiana are holding their own with every indication of noticeable improvement during the coming month. Total production in North Louisiana averaged 51,265 bbls. a day, a decrease of 328 bbls. daily.

In the Arkansas Field, there was an increase of 454 bbls. a day, the total daily average amounting to 110,776 bbls. The Smackover light oil territory was responsible for the increase in production, all other districts showing a slight decrease. The total daily average production from the combined fields was 162,041 bbls., distributed as follows:

| North Louisiana | |
|---|---|
| Bellevue | 4,110 |
| Caddo light | 9,785 |
| Caddo heavy | 2,397 |
| Cotton Valley | 6,678 |
| De Soto and Red River | 4,660 |
| Elm Grove | 685 |
| Haynesville | 15,865 |
| Homer | 7,085 |
| Total | 51,265 |
| **South Arkansas** | |
| El Dorado | 10,410 |
| Nevada County | 1,105 |
| Smackover light | 31,535 |
| Smackover heavy | 65,550 |
| Stephens | 2,176 |
| Total | 110,776 |
| Total both fields | 162,041 |
| Decrease | 126 |

### Monroe Gas Field

Startling revelations have been made public as a result of the recent survey of the Monroe gas field, made by the minerals division of the conservation department and said to be the most comprehensive ever constructed in this territory. According to the report, there has been a decline from 1,025 pounds to 860 pounds per square inch in the average rock pressure of the field, in some districts the pressure being as low as 337 pounds.

It is estimated that 86,000,000,000 feet of gas has been taken from the field illegally, thereby depriving the State of conservation tax amounting to approximately $300,000, in addition to unduly depleting the field. Careful computation, according to Boyle's law of gases, indicates that there has been a removal from the Monroe gas field up to date of 535,000,000,000 feet of gas, with 2,100,000,000,000 feet still recoverable. It is estimated that at an average rate of removal of 400,000,000 feet a day, the field would last 14½ years.

It is indicated by the commission steps will be taken to secure the payment of the $300,000 said to be due the State as conservation tax on gas taken illegally by the carbon companies, and steps have already been taken to protect the field from further abuses.

A proposed cut of 35 per cent in the amount of gas to be taken from the wells in this district is also under advisement by the conservation commission. This would reduce the amount now consumed by the carbon companies from 375,000,000 to 275,000,000 feet per day, each plant to be apportioned its relative share according to the number of burners used.

It is believed this proposal would not be met by any active resistance by the carbon companies on account of the present unsatisfactory condition of the carbon market. Most of the carbon produced during the past few months has been sold at a price which is but little above the cost of production.

The third big gas well completed in the second sand in the Elm Grove gas field was completed last week by the Palmer Corp., their Hodges B-6 in Section 25-16-12 making 23,000,000 feet in the 1,900-foot sand.

### Union County Completions

Continued improvement is noted in the result of drilling operations throughout the Arkansas fields, the number of completions showing a small but steady increase each week. Increased activity is particularly noticeable in the newly proven territory south of Griffin, on the western edge of the Smackover district, where the recent discovery of oil practically proves up the entire territory between Louann and Norphlet.

During the week, three completions were made in this vicinity by the Gulf Refining Co., its No. 1 H. Murphy in Section 5-16-16, pumping 30 bbls. at 1,992 feet; No. 25 L. Werner in Section 5-16-16, pumping 85 bbls. at 2,251 feet, and No. 26 L. Werner in Section 6-16-16, pumping 60 bbls. at 2,261 feet.

On the extreme eastern edge of the Smackover Field, the Gulf Refining Co. completed No. 9 M. Alphin in Section 2-16-15, pumping 150 bbls. at 1,864 feet.

On the west edge of the Smackover Field, the Arkansas Invincible Oil Co. completed No. 1 Patterson in Section 12-16-7, making a 70-bbl. pumper at 2,305 feet.

The Phillips Petroleum Co. tested dry with a showing of oil in 15 feet of broken sand at 2,152 feet in No. 1 Hearin, Section 13-16-16, 3 miles northwest of Norphlet, drilled to 2,302 feet and the test has been abandoned.

In the East El Dorado Field, Terry Summerfield completed No. 6 Smith in Section 29-17-14, getting a 50-bbl. pumper at 2,185 feet.

Harrell and others have abandoned their wildcat test on the Teele lease in Section 11-19-12, after drilling to a depth of 3,175 feet without success. The test is located 20 miles east of the south edge of the El Dorado production.

### Ouachita County

Completions in the Ouachita County area of the Smackover Field numbered 10, all producers, with an aggregate initial production of 1,065 bbls.

H. E. Clark completed No. 1 Yarbrough in Section 26-15-17, making a 40-bbl. pumper at 2,340 feet.

Clark & Melat completed their third well on the Murphy lease in Section 4-16-15, pumping 135 bbls. at 1,952 feet.

The Forest Oil Co.'s No. 12 J. A. Cramer in Section 27-15-16, is pumping 125 bbls. at 2,280 feet.

Hunt and others completed No. B-3 Green in Section 23-15-17, flowing 180 bbls. at 2,294 feet; No. B-4 Green in the same secction flowing 400 bbls. at 2,332 feet, and No 1 Myatt, Section 22-15-17, flowing at the rate of 40 bbls. a day through 2-inch tubing, at 2,260 feet.

Staves and others completed No. 3 Jeffus in Section 26-15-17, making a 25-bbl. pumper at 2,339 feet.

In the Stephens Field, Spear & Johnson tested dry at 1,260 feet in No. 2 Morgan, Section 3-15-19, and the well has been abandoned.

### Webster Parish

In the Cotton Valley district, the Ohio Oil Co. completed No. 9 Bodcau in Section 15-21-10, making 5,000,000 feet of gas with a spray of oil at 2,536 feet.

In the Springhill district, Butler & McMurray completed No. 1 Allen in Section 35-23-11, making 50,000,000 feet of gas at 2,687 feet.

### Bellevue Field

The Louisiana Oil Refining Corp. completed No. A-16 fee in Section 15-19-11, pumping 20 bbls. at 360 feet.

### Caddo Parish

There were two completions made in the Pine Island district during the week, the Dixie Oil Co. getting a 20-bbl. pumper at 1,650 feet in No. 2 Louisiana State, Section 13-21-15, and the Fortuna Oil Co.'s No. 13 Doan Thigpen, Section 3-20-15, flowing 15 bbls. at 2,197 feet.

### Claiborne Parish

The Black Oil & Gas Co. has abandoned its test on the Aubrey lease, Section 20-21-9, a wildcat test situated 9 miles west of Homer.

### De Soto Parish

Tarver and others got salt water at 2,768 feet in No. 3 Palmer, Section 3-11-14, and the well was abandoned. The test was located 12 miles east of Logansport in the old Spider district.

### Ouachita Parish

The Consumers Gas Co. completed No. 1 Collins in Section 10-19-5e, making 9,000,000 feet of gas at 2,212 feet.

Montgomery and others completed No. 1 Carter in Section 12-19-4, making 34,000,000 feet of gas at 2,768 feet.

### Drilling Operations

### Union County, Arkansas

Arkado Oil Co. set 12-inch casing at 61 feet in No. 5 Hatfield, Section 7-16-15, and drilling at 1,800 feet; Arkansas Fuel Oil Co., swabbing at 2,256 feet in No. 5 LaGrone, Section 1-16-17, and made a location for No. 1 Scott, same section.

British Allied Estate is rigging up No. 2 Jones, Section 21-16-15; W. A. Dellmeyer has derrick up for No. 1 Ezell, Section 13-17-15; Doorn and others have derrick up for No. 1 Bradley, Section 4-19-16.

Federal Petroleum Co. is fishing for drill stem at 2,692 feet in No. 1 Childs, Section 8-16-16; W. H. Gilliland, rigging up No. A-2 Hodges, Section 6-16-16.

Gulf Refining Co. is rigging up No. 10 Alphin, Section 2-16-15; set and cemented 4-inch casing at 2,614 feet in No. 18 L. Werner, Section 5-16-16; rigging up No. 24 L. Werner, Section 6-16-16; made location for No. 27 L. Werner, same section.

Howell and others are drilling No. 1 Williams, Section 3-16-15, at 1,800 feet; derrick up for No. 2 Williams, same section; Houston Oil Co., pulling liner in No. 3 Hinton, Section 5-16-15, at 1,999 feet. This is an old well being drilled.

D. J. Johnson, trustee, had showing of salt water and a little oil at 2,152 feet in No. 1 Ford, Section 17-17-15; E. M. Jones, drilling red shale at 3,368 feet in No. 1 Murphy, Section 26-16-16; W. W. Jones and others are rigging up No. 1 G. F. Murphy, Section 18-16-15. Keen & Woolf have derrick up for No. 1 J. S. Murphy, Section 5-16-15.

Liberty Oil Co. shut down No. 1 Davis, Section 31-16-14, at 1,942 feet and waiting on casing; Lion Oil & Refining Co., coring sand at 2,350 feet in No. 4 Allgulf, Section 17-16-15, getting top gas sand at 2,335 feet; set 12-inch casing at 550 feet in No. 6 Graves, Section 3-16-15.

Magnolia Petroleum Co., set 10-inch casing at 169 feet in No. 3 Harris, Section 16-16-16; set 12-inch casing at 236 feet in No. 1 N. J. Scott, Section 12-16-17; Mathews and others set 10-inch casing at 162 feet in No. 1 Teele, Section 11-19-12, and drilling at 780 feet.

Myerscough and others are waiting on standard rig at 2,184 feet in No. 3 Smith, Section 29-17-14; P. F. O'Brien, drilling gumbo at 1,452 feet in No. 1 Fee, Section 13-19-17.

Penguin Oil Co. is waiting on standard rig with 300 feet of oil in hole and 10 feet of sand at 2,062 feet in No. 3 Berry, Section 18-16-15; Pure Oil Co. drilling No. 1 C. Hicks, Section 20-16-15, at 1,930 feet; tested No. 1 Lawton, Section 30-16-15, getting 8,000,000 feet dry gas, 2 feet cap sand, then casing gave way at 2,080 feet and fresh water killed well. Now recementing at 2,030 feet.

Rutledge, trustee, is moving in rig on No. 4 Hodges, Section 1-16-17; Smitherman-McDonald have derrick up for No. B-4 Saxon, Section 5-16-16.

Standard Oil Co. of Louisiana set 6-inch casing at 1,887 feet in No. 9 J. H. Alphin, Section 3-16-15; drilling rock at 1,968 feet in No. 15 J. H. Alphin, Section 11-16-15; Sunny Jim Oil Co. set 6-inch casing at 2,020 feet in No. 2 Flenniken, Section 9-16-15, and swabbing to test 10 feet of sand at 2,079 feet, with 150 feet of oil in hole.

Sutherland and others are drilling No. 4 Neely, Section 1-16-17, at 2,020 feet; Wabler and others had 10-inch casing at 64 feet in No. 1 Williams, Section 36-17-14, and drilling at 700 feet; Weatherbee and others skidded 15 feet north in No. 3 Rice, Section 6-16-16, and now rigging up; Nye Wilson set 6-inch casing at 1,900 feet in No. 4 Hays, Section 4-16-15.

### Ouachita County, Arkansas

Arkansas Drilling Co. is rigging up No. 1 Reynolds, Section 24-15-17; Bray-Hawthorne shut down No. 1 Copenhaven, Section 13-15-17, and waiting orders at 2,530 feet; drilling No. 1 Goodwin, Section 12-15-17, at 1,620 feet. Burton, trustee, set 4-inch casing at 2,257 feet in No. 3 Hughes, Section 28-15-16.

H. E. Clark is drilling No. 2 Smith, Section 26-15-17, at 2,150 feet; set 10-inch casing at 30 feet in No. 2 Yarbrough, Section 26-15-17, and drilling at 700 feet; Boger and others set 10-inch casing at 60 feet in No. 2 Minor, Section 20-15-16, and drilling at 1,000 feet.

Cumberland Petroleum Co. set 10-inch casing at 62 feet in No. 1 Reynolds, Section 23-15-17, and drilling at 2,000 feet; Duho Oil Co. has 600 feet of fluid in the hole of No. 4 McKenzie, Section 36-15-16, with 10 per cent salt water, and waiting on standard rig with 15 feet of sand at 2,012 feet.

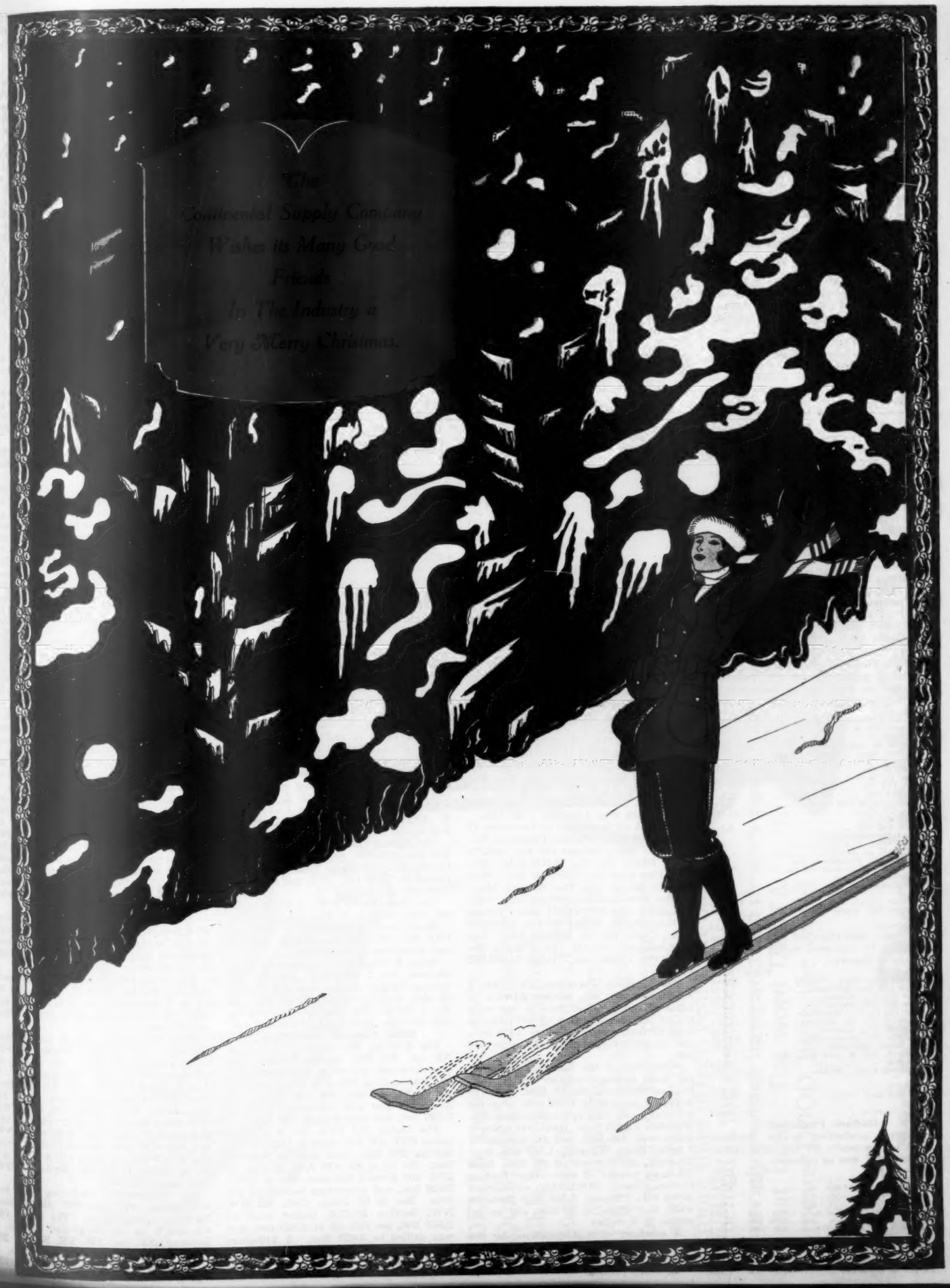
Ellis and Dumas set 10-inch casing at 131 feet in No. 2 Forest City Box Co., Section 31-15-16, and drilling at 530 feet; Forest Oil Co. set 6-inch casing at 2,261 feet in No. 2 J. A. Cramer, Section 27-15-16, and drilling plug.

Galloway and others set 6-inch casing at 2,232 feet in No. 2 Hughes, Section 28-15-16.

Gulf Refining Co. set 10-inch casing at 192 feet in No. 1 Reynolds, Section 23-15-17, and drilling at 1,100 feet; derrick up for No. A-7 Werner, Section 26-15-17; set 10-inch casing at 220 feet in No. 2 Henry Murphy, Section 2-16-15, and drilling at 950 feet.

Hazen and others are drilling No. 1 Fincher, Section 29-15-16, at 2,050 feet; Hunt and others are drilling 45 feet of broken sand at 2,291 feet in No. B-6 Anderson, Section 23-15-17; derrick up same section for No. B-7 Anderson; rigging up No. B-5 Green, Section 23-15-17, and derrick up for No. 1 Halton, same section, and also for No. 2 Halton.

(Continued on Page 98)


The
Continental Supply Company
Wishes its Many Good
Friends
In The Industry a
Very Merry Christmas.

# Oklahoma Field Operations

By C. D. Lockwood

**Freezing weather throughout Mid-Continent Field causes slackening up of drilling operations. Rain and snow welcomed by southern Oklahoma operators. Wilcox sand well in Pawhuska district comes in for big production. Magnolia's well in Lincoln County maintains production after deepening.**

During the past week the extremely cold weather prevailing throughout the Mid-Continent oil fields caused a more or less general shutdown of field operations. In some of the larger fields, as in Cromwell and the Papoose, the big operators prepare for winter as in the northern fields, and freezing weather does not cause a discontinuance of drilling due to frozen water pipes. The smaller operators and wildcatters do not, as a rule, bury their water and steam lines, consequently every cold snap that comes causes an immediate shutdown.

Rains, followed by snow, were welcomed by operators in the southern part of the State, who have been hampered by lack of water to carry on drilling operations. A drought has existed in that region since last July, and it is expected that with a plentiful supply of water, developments will proceed more rapidly in the Graham Pool, in Carter County, as well as a renewal of wildcatting activity in Jefferson County, which has been practically at a standstill.

Another good well was completed in the Pawhuska district when E. B. Lawson's No. 10, NE cor. SW NW NW, Section 28-25-8, started flowing at the rate of 110 bbls. an hour from the Wilcox at 2,779-88 feet.

### Tonkawa Production

Average production of the Tonkawa Field for the week ending December 16 was as follows:

| Company— | Wells | Bbls. |
|---|---|---|
| Amerada Petroleum Corp. | 39 | 12,104 |
| Blackwell Oil & Gas Co. | 33 | 7,940 |
| Carter Oil Co. | 5 | 127 |
| Champlin Refining Co. | 2 | 20 |
| Champlin Ref. Co. and Twin State Oil Co. | 1 | 8 |
| Comar Oil Co. | 343 | 36,180 |
| Cosden Oil & Gas Co. and Marland Oil Co. | 18 | 252 |
| Gypsy Oil Co. | 103 | 17,538 |
| Healdton Oil & Gas Co. | 28 | 1,342 |
| Wentz Oil Corp. | 47 | 15,867 |
| McMan Oil Co. | 1 | 3 |
| Pennok Oil Co. | 32 | 6,358 |
| Phillips Petroleum Co. | 2 | 73 |
| Prairie Oil & Gas Co. | 12 | 499 |
| Sinclair Oil & Gas Co. | 1 | 14 |
| Southwestern Petroleum Co. | 15 | 575 |
| T. B. Slick and Comar Oil Co. | 36 | 8,442 |
| The Texas Co. | 5 | 34 |
| White Eagle Ref. Co. | 7 | 129 |
| Total | 739 | 107,595 |
| Total last week | 724 | 105,632 |
| Increase | 6 | 1,973 |

Average production of the Tonkawa deep sand for the week ending December 16, was as follows:

| Company— | Wells | Bbls. |
|---|---|---|
| Amerada Pet. Corp., Goltry | 6 | 11,068 |
| Pennok Oil Co., Endicott | 7 | 5,186 |
| Comar Oil Co., Beverlin | 2 | 4,554 |
| Comar Oil Co., Pettit | 3 | 1,857 |
| Comar Oil Co., L. Endicott | 4 | 4,737 |
| Comar Oil Co., E. Endicott | 8 | 15,564 |
| Comar Oil Co., Gaume | 1 | 582 |
| Gypsy Oil Co., Shawver | 10 | 14,928 |
| T. B. Slick, Endicott | 7 | 7,073 |
| Blackwell Oil & Gas Co., McDaniels | 4 | 7,114 |
| Wentz Oil Corp., McKee | 5 | 14,524 |
| Total | 57 | 86,887 |
| Total last week | 53 | 84,785 |
| Difference | 4 | 2,102 |

### Burbank Production

Average production in the Burbank Field by companies for the week ending December 17 was as follows:

| Company— | Wells | Bbls. |
|---|---|---|
| Carter Oil Co. | 225 | 11,878 |
| Cosden Oil & Gas Co. | 105 | 3,233 |
| Comar Oil Co. | 7 | 133 |
| Devonian Oil Co. | 16 | 250 |
| Gardner Petroleum Co. | 20 | 463 |
| Gypsy Oil Co. | 196 | 5,118 |
| Keywanee Oil & Gas Co. | 25 | 502 |
| Laurel Oil & Gas Co. | 16 | 264 |
| Lorraine Petroleum Co. | 15 | 155 |
| Midland Oil Co. | 37 | 1,558 |
| Mid-Kansas Oil & Gas Co. | 39 | 1,608 |
| Peters & Oliphant | 2 | 159 |
| Phillips Petroleum Co. | 111 | 12,992 |
| Phillips Pet. Co. and Delmar Oil Co. | 16 | 1,816 |
| Phillips Pet. Co. and Skelly Oil Co. | 175 | 5,170 |
| Prairie Oil & Gas Co. | 106 | 3,289 |
| Producers & Refiners Corp. | 29 | 471 |
| Roxana Petroleum Corp. | 55 | 726 |
| Simons-Moore et al | 29 | 259 |
| Sinclair Oil & Gas Co. | 145 | 2,980 |
| Skelly Oil Co. | 22 | 1,078 |
| Tidal-Osage Oil Co. | 43 | 716 |
| The Texas Co. | 6 | 480 |
| Twin States Oil Co. | 24 | 1,158 |
| Total | 1,464 | 56,356 |
| Total last week | 1,459 | 57,560 |
| Difference | 5 | 1,204 |
| Kay County Extension— | | |
| George S. Bole | 3 | 354 |
| Carter Oil Co. | 11 | 1,338 |
| Comar Oil Co. | 19 | 996 |
| Cosden Oil & Gas Co. | 16 | 1,215 |
| Gypsy Oil Co. | 13 | 557 |
| Laurel Oil Co. | 5 | 289 |
| Mid-Kansas Oil & Gas Co. | 10 | 932 |
| Phillips Petroleum Co. | 81 | 3,968 |
| Prairie Oil & Gas Co. | 4 | 278 |
| Pure Oil Co. | 5 | 297 |
| Roxana Petroleum Corp. | 8 | 299 |
| Dye & Tomlinson | 5 | 612 |
| Skelly Oil Co. and Phillips Pet. Co. | 20 | 575 |
| Sinclair Oil & Gas Co. | 5 | 359 |
| The Texas Co. | 16 | 177 |
| Twin State Oil Co. | 15 | 792 |
| Total | 195 | 13,038 |
| Total last week | 195 | 13,294 |
| Difference | 0 | 256 |

The daily average of runs through the different pipe lines from the Burbank Field during the week ending December was as follows: Gulf Pipe Line Co., 6,507 bbls.; Delmar Oil Co., storage, 908 bbls.; Kay County Pipe Line Co., 3,176 bbls.; Osage Pipe Line Co., 257 bbls.; Oklahoma Pipe Line Co., 17,164 bbls; Prairie Pipe Line Co., 3,934 bbls.; Cosden Pipe Line Co., 6,121 bbls.; Sinclair Pipe Line Co., 3,334 bbls.; Moore Refining Co., 1,481 bbls.; Standish Pipe Line Co., 18,134 bbls.; Empire Pipe Line Co., 2,449 bbls.; Mid-Kansas Oil & Gas Co., 2,469 bbls.; Twin State Oil Co., 1,830 bbls.; Ozark Pipe Line Co., 1,597 bbls.

Burbank oil in storage on December 17 was as follows: Phillips Petroleum Co., 5,822,549 bbls.; Delmar Oil Co., 106,574 bbls.; Skelly Oil Co., 78,906 bbls.; Sinclair Pipe Line Co., 1,496,639 bbls.; Mid-Kansas Oil & Gas Co., 697,802 bbls.; Cosden Pipe Line Co., 406,441 bbls.; Cosden Oil & Gas Co., 21,671 bbls.; George S. Bole, 96,550; Gypsy Oil Co., 3,632,645 bbls.; Carter Oil Co., 553,287 bbls.; Dye & Tomlinson, 104,215 bbls.; Moore Refining Co., 18,602 bbls. Total, 13,035,881 bbls.

The Magnolia Petroleum Co.'s No. 1 Smith, SW cor. SE, Section 34-15-5, in Lincoln County, which came in last week for an initial production of 467 bbls. at 3,460-67 feet, was deepened to 3,471 feet, and on Saturday was holding up to 316 bbls.

Production of the following pools for the week ending December 18, follows: Papoose-Gilcrease, 32,718 bbls. from 71 wells, an increase of 1,562 bbls. over the previous week, with two additional wells; Wewoka, 12,225 bbls. from 100 wells, a decrease of 119 bbls. and an increase of 3 wells; South Weleetka, 1,369 bbls. from 15 wells, an increase of 32 bbls. from the same number of wells; Otoe Pool in Pawnee County, 10,622 bbls., an increase of 15 bbls.; Stroud, 3,388 bbls. from 66 wells, a decrease of 73 bbls. and an increase of 2 wells.

A summary of field operations for the peek ending December 13 reveals the fact that 62 locations were made, 174 rigs completed; drilling was discontinued in 308 wells, and 85 completions made. Of the completions, 60 were oil wells, 6 were gassers, and 19 were dry holes. This shows a much better ratio of successful completions compared to the previous week, when there were only 42 oil wells out of a total of 77 completions.

### In Tonkawa Field

The Comar Oil Co.'s No. 1 McCormick, NW cor. SW SE, Section 29-29-1w, in the Tonkawa Field, was flowing 132 bbls. from sand at 1,942-44 feet. The Comar Oil Co. was building a rig for No. 3 McCormick, NE cor. NE SE, Section 21-29-1w.

A. D. Simons's No. 3, CEL SE SW NE, Section 36-29-11, Osage County, was drilling at 527 feet. The Owen-Osage Oil Co.'s No. 311, CWL SW SW SW, Section 30-28-11, was drilling at 650 feet. Barnes & Clark have a rig up for No. 1, NE cor. NW SE, Section 13-26-5.

The Owen-Osage Oil Co.'s No. 310, CEL SE NW NE, Section 30-29-12, was dry and abandoned at 1,805 feet. The same company's No. 307, CSL NW, Sectino 17-22-11, was dry at 1,876 feet.

The Marland Refining Co.'s No. 1, SE cor. SE SW, Section 1-26-2w, in Kay County, was drilling at 2,450 feet with 400 feet of oil in the hole from sand at 2,285-2,305 feet.

Polling & Denny have a rig up for No. 2 Burkhalter, NE cor. NE NW, Section 9-27-1w. The same company has a rig up for No. 1 C NE NE NW, Section 9-27-1.

The Marland Oil Co.'s No. 2 Waters, SE cor. SE NW, Section 19-25-2, was dry and abandoned at 2,235 feet.

The Cosden Oil & Gas Co.'s No. 7 School Land, C NW SW NW, Pawnee County, Section 16-20-7, was flowing 90 bbls. after a 90-quart shot at 2,606-34 feet.

The Magnolia Petroleum Co.'s No. 1 B. Altaffer CSL SE NE NE, Section 5-22-3, was being rigged up.

The Roland Oil Co.'s No. 2 Morrison, NW cor. NE NE, Section 25-17-8, Creek County, was drilling at 2,730 feet in sand topped at 2,700 feet, with gas flowing at 3,000,000 per day.

The Gled Oil Co.'s No. 1 Tucker, NE cor. SW, Section 17-19-9, was spudding.

Bailey and others' No. 2 Jefferson, CSL SE SW, Section 30-19-9, was dry and abandoned at 3,139 feet.

Boggs & Sykes had two successful completions, No. 2 Willia, C NE NE NE, Section 31-8-8, in the Wewoka district, 25 bbls. from sand at 3,240-47 feet, and No. 7 Willia, CEL SE NE, Section 31-8-8, 450 bbls. from sand at 3,210-14 feet.

### Other Burbank Completions

The Phillips Petroleum Co.'s No. 5, NE cor. NE SW, Section 11-27-5, was shot with 100 quarts at 2,976-3,016 feet, and was making 500 bbls. The same company's No. 9, CWL NW SE, Section 11-27-5,, was shot with 130 quarts at 2,974-3,026 feet, and was flowing 500 bbls.

The Carter Oil Co.'s No. 5 M. Bighorse, CEL SE NE, Section 13-27-5, was flowing 200 bbls. from sand at 2,920-88 feet. No. 11, C SE NW NW, Section 13-27-5, was given a 140-quart shot at 2,970-3,026 feet, and production boosted to 500 bbls. No. 12 H. Johns, CNL NE NW NW, Section 13-27-5, topped sand at 2,958 feet, got first oil at 2,965 feet, and was drilled to 3,022 feet. A 140-quart shot at 2,964-3,022 feet brought 185 bbls. the first 18 hours.

T. B. Slick's No. 1, NW cor. NW SE, Section 13-21-10, was dry at 2,672 feet. Breene and others' No. 1, NW cor. NE NW NE, Section 27-21-10, was dry at 2,108 feet.

### Creek County Operations

Following the completion of the Sheldon Oil Co.'s No. 1 Vore, NE cor. SE NW, Section 34-16-12, 5 miles south and west of Mounds, a number of other operations have been started. The Central National Oil Co. has completed its No. 1 Barnett, CEL NW SE, Section 34-16-12, for 250 bbls. in sand at 2,161-69 feet. Other operations include Central National Oil Co.'s No. 3 Barnett, NW cor. NE NW SE, Section 34-16-12, building rig; Meadows & O'Brien's No. 1 Morey, SW cor. NW NE, building rig; Central National Oil Co.'s No. 2 Barnett, NW cor. NW SE, rigging up; Skelton & Houston's No. 2 Vore, SE cor. NE NW, rigging up; same company's No. 1 Vore, NE cor. SW, rig up; Superior Oil Corp.'s No. 1 Morey, SW cor. NE, rigging up; same company's No. 2 Morey, NW cor. SW NE, building rig; No. 2 Vore, SE cor. NW, rigging up.

The Eastern Oil Co.'s No. 7 Roberts, NE cor. SW SE, Section 17-15-8, in Creek County, was flowing 600 bbls. from the Dutcher sand, at 3,194-3,214 feet.

The Pure Oil Co.'s No. 1 Stover, NW cor. NE SW, Section 7-14-7, was given two 20-quart shots in a sand found at 4,050-4,139 feet, and was good for 275 bbls.

C. M. Ireland's No. 3 Maxwell, NE cor. NW NE, Section 17-16-12, was drilling at 850 feet.

Sartain Brothers' No. 1 Atussee, SE cor. SW NW, Section 32-17-8, shut in 13,000,000 feet of gas from sand at 2,810-32 feet. It is an old well deepened.

Pratt and others' No. 1, Lot 7, Block 19, Section 8-16-12, was producing 60 bbls. from sand at 2,078-2,115 feet. The Texas Co.'s No. 1, Lot 14, Fink addition, SW cor. NW SW, Section 8-16-12, shut in 6,000,000 feet of gas at 2,052-80 feet. The well was drilled to 2,557 feet, and plugged back to 2,100 feet. The same company's No. 2, Fink addition, CWL NW SW, was flowing 100 bbls. from 2,056-98 feet, total depth 2,103 feet. The Vick Oil Co.'s No. 1, Lot 3, Block 19, NW cor. SE SW, Section 8-16-12, was producing 20 bbls. from sand at 2,103-23 feet.

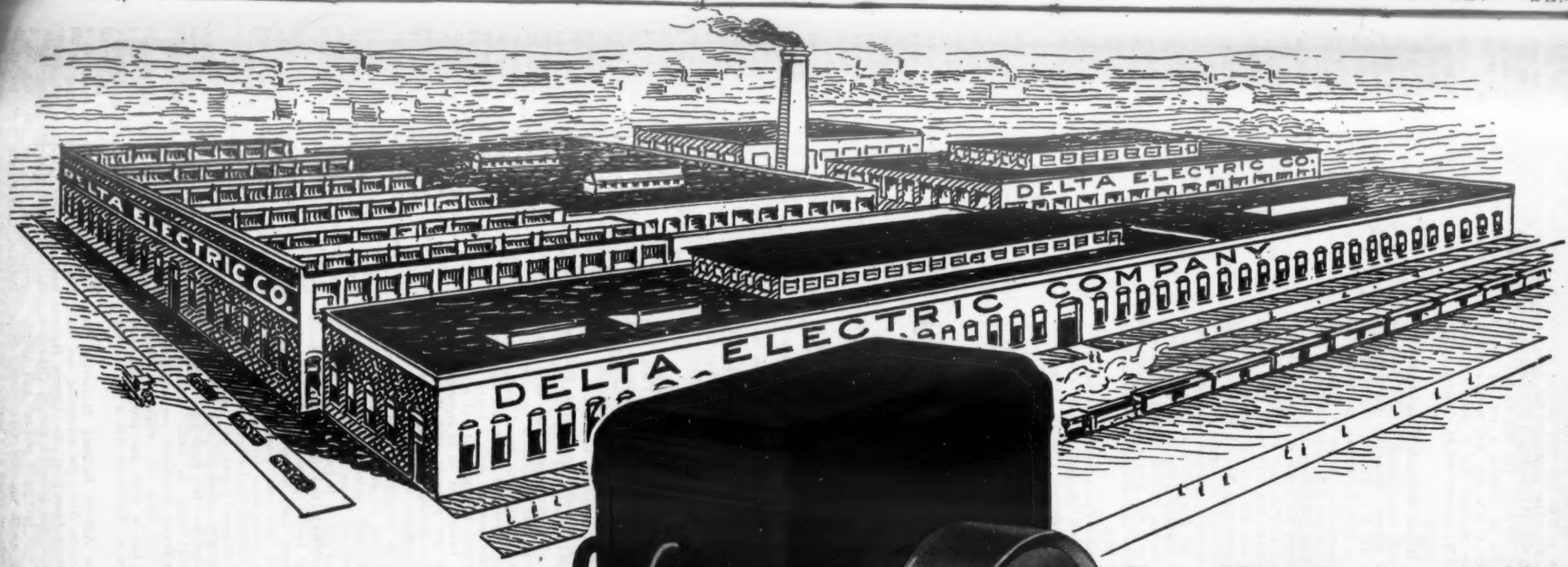
J. E. Crosbie's No. 1 Richard, CEL SE NW SW, Section 25-15-7, was deepened to 3,290-3,304 feet, and was making 18 bbls. The Eastern Oil Co.'s No. 7 Roberts, NE cor. SW SE, Section 17-15-8, was flowing 532 bbls. from sand at 3,194-3,214 feet. C. G. Tibbens' No. 5 McKann, SW cor. NE SW, Section 30-15-9, was shut in. It showed 500,000 feet of gas at 1,182-1,225 feet. C. G. Tibbens' No. 2 Sneed, SW cor. NW NW, Section 18-14-9, was shot with 100 quarts in sand at 2,310-54 feet, and made 80 bbls. the first day. The Empire Gas & Fuel Co.'s No. 1 Mitchell, SW cor. NW NW, Section 32-10-10, was flowing 250 bbls. from sand at 3,435-46 feet.

Whitten & Wilcox's No. 1 Walker, C E half SE NW, Section 8-18-12, found a sand at 1,688-1,700 feet which yielded 1,000,000 feet of gas. It was drilling at 1,720 feet.

The Gray Oil Co.'s No. 1-A Stewart, SE cor. Section 32-17-12, is spudded in. T. A. Creekmore's No. 1 Gills, SE cor. SW NW, Section 14-16-11, was drilling at 850 feet.

Foster and others' No. 1, Lot 6, Block 20, CNL NW SE SW, Section 8-16-12, in the Mounds district, was drilling at 340 feet; W. D. Hall and others' No. 1, Lot 2, Block 7, CWL SW NE SW, Section 8-16-12, rigging up tools; A. B. Ice and others' No. 1, Block 18, CWL SW NE SW, Section 8-16-12, rigging up; Suppese and others' No. 4 Marshall, NW cor. SE NW SW, Section 8-16-12, drilling at 620 feet; Prairie Oil & Gas Co.'s No. 1 Smith, C SE SE, Section 13-17-8, drilling at 650 feet.

The Atlantic Oil Producing Co.'s No. 2 Johnson, SW cor. SW SE, Section 14-17-8, is rigging up. The Savoy Oil Co. has a rig on the ground for No. 4 Johnson, NE cor. SW NE, Section 23-17-8. The Waite-Phillips Co.'s No. 4 Grayson, SW cor. NE NE, Section 22-17-8, was drilling at 750 feet.

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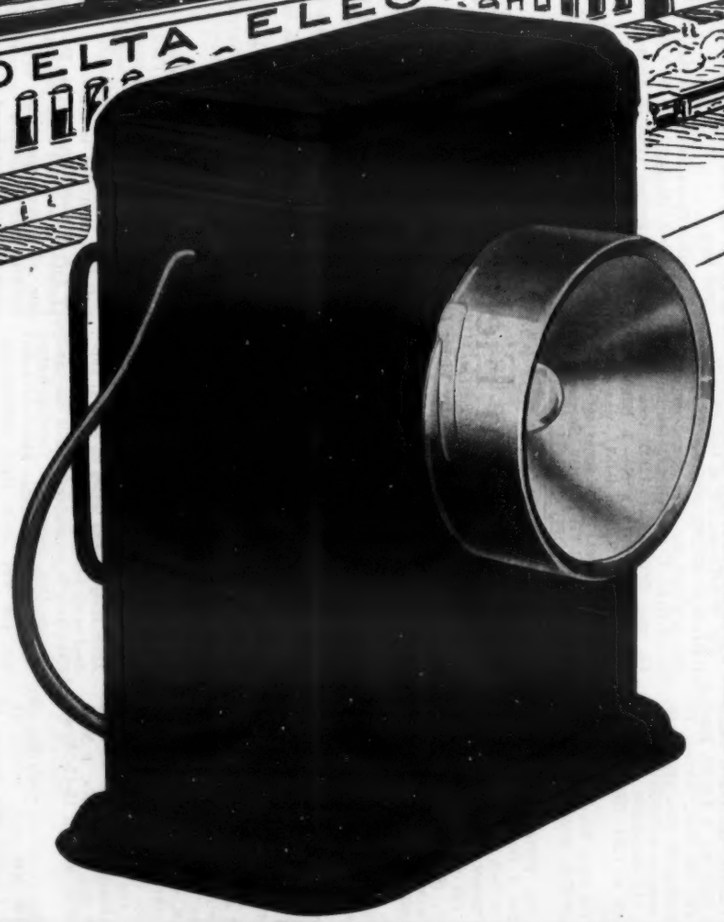

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Oil & Gas Co. had a rig on the ground for No. 3 Green, NW cor. Section 24-17-8. The Waite Phillips Co. was rigging up No. 1 Fife, NE cor. NW SE, Section 24-17-8. Sartain Brothers are rigging out to drill deeper No. 2 Antussee, SW cor. NW, Section 32-17-8, old depth 2,845 feet. The Bu-Vi-Bar Oil Co. has a rig up for No. 2 Wright, C NW SW, Section 19-17-9. The Waite Phillips Co. is spudding in No. 1 Hill, NE cor. NW SE, Section 6-16-9. The Empire Gas & Fuel Co. has a rig up for No. 1 Benjamin, SW cor. NW SW, Section 30-15-8.

The Prairie Oil & Gas Co. has a rig on the ground for No. 5 Vessar, NE cor. SE SW, Section 17-15-8. The Skelly Oil Co. has a rig on the ground for No. 3 McKann, C NE SW SW, Section 12-14-8. C. G. Tibbens has a rig up for No. 2 Sneed, SW NW SW SW, Section 7-14-9; The Devonian Oil Co. has a rig on the ground for No. 1 Durant, C NW NW SE, Section 27-14-9.

Wood & Farren have a fishing job in sand at 4,125-79 feet, which was making 10 bbls. in No. 4 Jack, NE cor. SW NW, Section 7-14-7.

**In Lincoln County**

In Lincoln County, the Union Petroleum & Supply Co.'s No. 4, Lot 13, Block 13, SE cor. SW SE NW, Section 12-14-6, was producing 20 bbls. after a 40-quart shot in sand at 4,120-58 feet. The same company has abandoned a rig, No. 5, Lot 6, Block 4, CNL SE NE NW, Section 12-14-6.

The Skelly Oil Co.'s No. 1 Keller, SE cor. Section 28-17-3, was dry at 4,175 feet.

The Magnolia Petroleum Co. was spudding in No. 1 Booth, SE cor. SE SW, Section 34-15-5.

**Wagoner County**

The Savoy Oil Co.'s No. 7 Colbert, CSL SE NW, Section 4-16-15, Wagoner County, was shot with 60 quarts in sand at 1,065-80 feet, and was good for 25 bbls. No. 8 Colbert, SW cor. SE NW, was shot with 60 quarts at 1,068-82 feet, and started at 30 bbls. No. 9 Colbert, CEL NW SE NW, also did 30 bbls. after 60 quarts at 1,080-1,110 feet.

Medlen and others' No. 1 Tucker, NE cor. SW, Section 25-17-16, was drilling at 620 feet. Reese and others' No. 1 McKellop, SE cor. NE NW, Section 25-18-15, was being rigged up. Winters and others' No. 2 Bird, CNL NW NE, Section 9-18-16, was drilling at 990 feet. Burwell and others are moving in tools for No. 1 Kelly, SE cor. SW NW, Section 10-18-16, and drilling at 1,150 feet in No. 1 Mantooth, NE cor. 16-18-16.

T. B. Slick and others' No. 1 Nave, NE cor. NE NW, Section 19-17-15, was spudding in.

The Magnolia Petroleum Co.'s No. 12 Bennett, C SW NW NW, Section 31-2s-2w, Carter County, was flowing 45 bbls. from sand at 3,085-3,120 feet; The Coline Oil Co.'s No. 1 Miller, C NE NW SE, Section 8-3s-2w, was drilling at 2,240 feet in sand topped at 2,432 feet, and swabbing 190 bbls. Max Westheimer's No. 12 Dillard, CSL NE SW SW, Section 22-4s-2w, was deepened to 2,510 feet and was producing 75 bbls. from sands at 2,225-62 feet, and 2,428-80 feet.

The Magnolia Petroleum Co.'s No. 1 McClish, C NW NE SW, Section 34-1s-3w, was spudding in.

The Amerada Petroleum Corp.'s No. 3 Clay, C E half NW NE NW, Section 28-5s-1e, Brock Field, was flowing 60 bbls. from sand at 1,070-82 feet. No. 4 Clay, SE cor. SW NE, Section 28-5s-1e, was drilling at 630 feet. The same company's No. 3 Blow, SE cor. NE SE NW, Section 28-25-1e, was drilling at 150 feet. Westheimer & Daube's No. 1 Fee, CEL NE NE NW, Section 28-5s-1e, is rigging machine.

The Magnolia Petroleum Co.'s No. 1 Westerly, NE cor. SW, Section 19-1s-3w, Sholom Alechem Field, was drilling at 2,720 feet. The same company's No. 1 Gray, C NW NE SW, Section 10-1s-3w, was dry and abandoned at 3,640 feet.

Noble & Gault's No. 1 Champion, C SW SE NE, Section 28-1s-3w, was flowing 325 bbls. from sand at 3,370-97 feet, total depth 3,400 feet.

The Magnolia Petroleum Co.'s No. 2 Hart, C NW SE NE, Section 32-1s-3w, swabbed 215 bbls. the first 24 hours from sand at 2,695-2,700 feet, when water broke loose around the 6-inch casing.

The Amerada Petroleum Corp.'s No 3 Clay, CEL NW SW NE, Section 28-5s-1e, was flowing 60 bbls. from sand at 1,070-82 feet.

The Magnolia Petroleum Co. had a rig up for No. 11 Hefner, SW cor. NE, Section 27-2s-3w.

**Hughes County**

The H. F. Wilcox Oil & Gas Co.'s No. 3 Brown, C NE SE NW, Section 17-9-9, Hughes County, was good for 170 bbls. from sand at 3,061-74 feet. This well is in the old Gilcrease Pool.

The Sinclair Oil & Gas Co.'s No. 1 Manley, C SE SW NW, Section 1-8-8, encountered a sand at 3,638 feet which made a show through water and is underreaming to set the 6-inch casing.

The Mid-Kansas Oil & Gas Co.'s No. 1 Baker, NE cor. SE NW, Section 9-9-11, was swabbing 35 bbls. after a 20-quart shot at 3,075-98 feet. The same company's No. 3 Bruner, C NE SW NE, Section 9-9-11, was swabbing 50 bbls. from sand at 2,970-87 feet.

The Mid-Kansas Oil & Gas Co.'s No. 1 Baker, C NE SE SW, Section 4-9-11, was spudding in. The same company's No. 2 Byrd, C SE NE SE, Section 4-9-11, was drilling at 1,605 feet. The Tidal-Osage Oil Co.'s No. 1 Baker, C SW NE SW, Section 9-9-11, was drilling at 340 feet. The same company's No. 2 Baker, C SE NE SW, Section 4-9-11, was drilling at 1,135 feet. No. 4 Baker, C SW NW SE, drilling at 195 feet. The same company's No. 2 Bryan, C SE NW SW, Section 4-9-11, was drilling at 260 feet. The Mid-Kansas Oil & Gas Co. is building a rig for No. 4 Bruner, C NW SW NE, Section 9-9-11. Walter Sanders' No. 1 Kite, CSL NE NE NW, Section 8-6-10, drilling at 200 feet.

**Recent Burbank Completions**

Recent completions in the Burbank Field include Carter Oil Co.'s No. 13, CNL NE NW NW, Section 11-27-5, in sand at 2,969-3,030 feet, 330 bbls. after a 90-quart shot; Carter Oil Co.'s No. 14, CNL NW NE NW, sand 2,967-3,031 feet, shot with 120 quarts, 210 bbls.; Phillips Petroleum Co.'s No. 6, C NE SW SE, Section 11-27-5, shot with 140 quarts at 2,998-3,045 feet, 275 bbls. The first 24 hours and 400 bbls. the second 24 hours; same company's No. 11, C SW NE SE, Section 11-27-5, topped sand at 3,004 feet, first oil 3,014 feet, total depth 3,050 feet; 400 bbls. after a 110-quart shot; same company's No. 9, CWL SW NW NE, Section 18-27-6, got oil and gas in sand at 2,970 feet, and had 2,000 feet of oil in the hole at a total depth of 2,993 feet.

**Other Operations in the Osage**

Misner & Clough's No. 7, CEL SE NW NE, Section 17-27-12, Osage County, was producing 5 bbls. after a 70-quart shot in the Bartlesville at 1,610-40 feet.

The Olean Petroleum Co.'s No. 2, SE cor. NE NW, Section 36-26-11, was dry at 2,312 feet.

The Wolverine Oil Co. and others deepened No. 1, SE cor. SE NW, Section 14-25-9, to 1,646 feet, and were getting 2,500,000 feet of gas; the Oswego lime was topped at 1,632 feet.

The Texas Co.'s No. 8, NE cor. SE NE NE, Section 29-25-8, in the Pawhuska Pool, mudded off 5,000,000 feet of gas at 2,365-74 feet, and was setting 6¼-inch casing at 2,380 feet. No. 11, NE cor. SW NW NE, was flowing 90 bbls. an hour from sand topped at 2,661 feet, productive at 2,663-67 feet. No. 12, CWL NE, Section 29-25-8, swabbed 24 bbls. from the Bartlesville at 2,265-80 feet.

C. B. Peters' No. 1, SW cor. NW SW SE, Section 4-23-9, deepened to 2,191 feet, was doing 10 bbls. from the Bartlesville at 2,136-84 feet after a 120-quart shot.

The Owen-Osage Oil Co.'s No. 310, SE cor. NW NE, Section 30-29-12, a twin well, was drilling at 850 feet; the same company was setting 6¾-inch casing at 1,820 feet in No. 308, SE cor. SW SW, Section 10-27-11. C. B. Peters and others were spudding in No. 1, SW cor. SE SW SW, Section 28-24-9. The Cosden Oil & Gas Co.'s No. 6, CSL SE SW SE, Section 17-26-6, was drilling at 455 feet. The Red Bank Oil Co.'s No. 7, CSL SW, Section 20-23-8, was drilling at 150 feet.

**Completions at Cromwell**

The following inside wells were completed in the Cromwell Field; Pure Oil Co.'s No. 6 Bunner, C NE NE SE, Section 9-10-8, 40 bbls., sand 3,395-3,532 feet, total depth 3,534 feet; same company's No. 9 Bunner, C NW NW SE, Section 9-10-8, 1,000,000 feet of gas shut in, sand 3,337-89 feet; Sinclair Oil & Gas Co.'s No. 2 Hill, C NE NE NE, Section 9-10-8, 30,000,000 feet of gas, top of sand at 3,307 feet, completed as gas well at 3,387 feet; Carter Oil Co.'s No. 4 Brown, C NE NE SW, Section 10-10-8, sand 3,356-3,507 feet, 325 bbls. natural; same company's No. 2 M. Hill, C SW NW NW, Section 10-10-8, 8 bbls., 15,000,000 feet gas, sand 3,285-3,425 feet; Roxana Petroleum Corp.'s No. 4 Berryhill, C SE SE NW, Section 10-10-8, 146 bbls., 50,000,000 feet of gas, sand 3,320-3,468 feet; same company's No. 2 Berryman, S SW NE NW, Section 10-10-8, sand 3,335 feet, shut down at 3,525 feet, flowing 40,000,000 feet of gas; No. 3 Berryman, C NW NE NW, 66 bbls. from 3,180-foot sand, 60,000,000 feet of gas from sand topped at 3,328 feet, drilling at 3,412 feet; Roxana Petroleum Corp.'s No. 1 Yarhola, C SW SE SW, Section 3-10-8, 85 bbls. from sand at 3,326-3,497 feet; Empire Gas & Fuel Co.'s No. 2 Dunn, C SE SE SE, Section 4-10-8, 30,000,000 feet of gas from 3,326-3,450 feet; No. 3 Dunn, C NE SE SE, 500 bbls. from sand at 3,324-3,420 feet; No. 6 Dunn, C NW SE SE, 500 bbls. from sand 3,340-3,410 feet. Cosden Oil & Gas Co.'s No. 4 Toney, CSL NE NE SW, Section 4-10-8, 800 bbls., sand 3,422-57 feet; No. 5 Toney, C NE NE SW, 1,200 bbls., sand 3,412-76 feet; Waite Phillips Co.'s No. 4 Proctor, C NW NE SW, Section 16-10-8, sand 3,449-89 feet, 25 bbls.

The Laurel Oil & Gas Co.'s No. 1 Fixico, C SE SW NW, Section 4-10-8, was flowing 70 bbls. from sand at 3,405-41 feet; the well had been deepened to 3,500 feet.

The Southwestern Petroleum Co.'s No. 1 Jackson, C SW SE NW, Section 4-10-8, was completed for 2,568 bbls. in sand at 3,395-3,435 feet; No. 2 Jackson, C SE SE NW, 2,400 bbls. from sand at 3,392-3,445 feet.

The Waite Phillips Co.'s No. 4 Dunn, CSL NE NE SE, Section 4-10-8, was flowing 1,885 bbls. from sand at 3,373-3,477 feet.

Drilling operations in the Cromwell Field include: Carter Oil Co.'s No. 4 Hall, C NW NE NW, Section 9-10-8, drilling at 478 feet; No. 5 Hall, C SE NE NW, drilling at 380 feet; No. 4 Hill, C SW NW NE, drilling at 250 feet; Houston Oil Co.'s No. 3 John Harjo, C NW NE SE, Section 15-10-8, spudding in; Carter Oil Co.'s No. 5 Roberts, C NW SW NW, Section 16-

(Continued on Page 85.)

# News from Fields of Canada

By Victor Lauriston

CHATHAM, Ont., Dec. 20.—In the Ontario fields, the Dominion Natural Gas Co.'s No. 2, on the Fisher farm, Norfolk County, between Courtland and Maybee's Corners, was brought in this week at 1,300 feet depth with an estimated production of between 500,000 and 600,000 feet a day. No. 1, finished about six weeks ago in this area, was good for only about 100,000 to 130,000 feet. No. 3 well, located at the same time as No. 2, is reported down about 80 feet but has been shut down for some time. The Dominion Natural Gas Co. will probably drill further tests in this area; while the No. 2 gasser will be linked up with the main pipe line. The Tillsonburg Oil Syndicate, headed by Allen Rodgers, has leases on several hundred acres between Tillsonburg and Lake Erie, and is arranging to drill one, and perhaps two, tests. The Caledon Natural Gas Co. of Hamilton also hold acreage and will likely start development work.

**Shallow Test**

In Kent County, the Ajax Oil & Gas Co. of Toronto is reported starting a shallow test of the lower Onondaga limestone on the Earl Smith farm, west of the old Klondike Pool in Zone Township. Considerable acreage in the vicinity of Lot 5, Concessions 13 and 14, Camden Township, has been tied up recently by the Ajax Oil & Gas Co., the Eagle Oil & Gas Co., E. P. Rowe and other interests. Ajax No. 1 on the Earl Smith will be carried down to 600 feet, at which depth the E. P. Rowe deep test north of Thamesville disclosed a promising oil horizon in the Onondaga. The E. P. Rowe deep test is shut down at about 2,210 feet, but will be resumed and drilled through the Trenton limestone. Southeast of the E. P. Rowe deep test, W. G. Rowe and associates have moved a drilling rig to Lot 4, Concession 4, Zone Township, for a second test of the shallow oil horizon at 650 feet. The deep test, on Lot 5, Concession 3, Zone Township, is reported to have shown oil sand between 600 and 640 feet. The old Klondike Field on Lot 5, Concession 1, Zone Township, some years ago developed wells with a flush production estimated as high as 1,000 bbls. per day from the top of the Oondaga at 230 feet, and the field still has a small production.

In the Canadian West, the Macleod Oil Co., Section 1-20-3w5, in the Okotoks Field southwest of Calgary is reported shut down, following the striking of what looks like a small commercial production of light oil at about 2,400 feet. No official estimate has yet been made of the probable capacity.

In the Willow Creek Field, the Imperial Oil, Ltd., test on Rice Creek is reported shut down for the winter at about 1,000 feet.

**Irma-Wainwright**

In the Irma-Wainwright Field, east central Alberta, British Petroleum's No. 2, Section 30-46-6w4, is still engaged in clearing the sand out of the hole. The well was completed in November, 1923, with a considerable flow of heavy asphaltic oil, and has since been standing idle. Pumping equipment was put in recently for a definite capacity test, when the well was found plugged with sand. After the bailer had been used to clean out the sand, a heavy gas flow developed, blowing mud out of the casing. Later some oil is reported coming under gas pressure, and the operators hope to develop a flowing well when the hole is finally cleaned out.

In the Sweetgrass Field, southern Alberta, the Imperial Oil, Ltd.'s No. 2 Dead Horse Coulee, east of Coutts, is reported shut down for the winter. Canadian Oil & Refining (Rogers' No. 1) Section 29-1-11w4, is shut down. South of the border, plans are being made for two new tests in the Sweetgrass Hills. Frank Bell and associates of Butte, Mont., have some acreage just south of the Canadian border between the Gladys-Belle-Browne gasser on the south and the Rogers gasser in southern Alberta, and are reported planning to test these holdings early in 1925. The Gladys-Belle-Brown developed considerable gas but very little oil; while the Rogers well had a large gas production, estimated at 23,000,000 feet a day or better.

The Alberta Refinery Marketing Co. of Coutts, Alta., the marketing and distributing branch of the Alberta Refinery Co., has leased a site at Edmonton and will provide a storage and distributing plant, drawing their stocks from the refining plant at Coutts.

MERRY CHRISTMAS

# Christmas Tragedy Averted

Bill was a driller, experienced and efficient. A man almost physically perfect. His eyes were clear and blue and he felt the love of life that was his when youthful pulse beat fast.

Bill was drilling at Cromwell where corn flowed and loose-gowned women plied their trade. These were not strange lands to Bill for he has been swept along by the romance of his trade in such environment.

Bill's wife and little Tim lived in Tulsa and the big handsome husband and father had not been home for a month. At midnight when going to work he would see the million eyes in the Heavens blue while the earth was hushed and still. He would picture Tiny Tim and the sweet young wife, and hear the melodies that drew him back to the loved fireside.

It was the middle of December and Bill was bending every effort to complete his well before the Happy Christmas that he and little Tim had planned. The last string of six-inch would not set. They pulled it time and again and exhausted all their resources in tightening casing. Christmas coming and Bill saw RED. The thought struck home. He remembered the RED PACKER. He called the ROBINSON PACKER COMPANY and they sent one of their famous bottom hole packers and lo the job was done. The packer sealed the hole perfectly. Thus a tragedy was averted in the lives of Bill, the wife and Tiny Tim.

Bill was Santa to Tim and the dawn of a HAPPY NEW YEAR is breaking for Bill and we hope to all our loyal patrons wherever they are.

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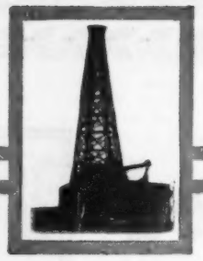
HAPPY NEW YEAR



# Kansas Oil Field News

By C. D. Lockwood

**Active development proceeding in Winfield Pool, Cowley County, since discovery of new sand at 3,000 feet. There are 15 wells now drilling to deeper pay, production formerly having been confined to gas sand at 600 feet and two oil sands, one at 1,400 feet and the other at 2,300 feet.**

Since the discovery of a very productive sand at 3,000 feet in the Winfield Pool, 2 miles east of Winfield, Cowley County, interest has increased considerably in that section of the county. Two wells have since found the sand for good production, and 15 are drilling or rigging up to drill to the same sand. The J. A. Hull Co. on November 1, purchased for $675,000 the holdings of the Emerald Oil Co. in Sections 12, 13, 22, 23 and 26, Township 32, Range 4. The discovery well and the other deep producers are in Section 24-32-4, and it is expected that the sand will be found productive under a considerable area outside of that section.

Until the completion of the Hull Co.'s No. 7 Wallace, CWL NW SE, Section 24-32-4, at 3,000 feet, three other sands in the field were producing. There is a gas sand at 600 feet, and oil sands at 1,400 and 2,300 feet. No. 7 Wallace produced 500 bbls., and the second well to reach the sand, the J. A. Hull Co.'s No. 7 Kukuk, SW cor. NE, Section 24-32-4, was good for 1,200 bbls. The third well, No. 6 Wallace, NW cor. SE, Section 24-32-4, was producing 400 bbls. after a 40-quart shot.

The drilling depths of the wells now going to the 3,000-foot sand were as follows on December 19: J. A. Hull Co.'s No. 5 Ditmer, NE cor. SW, Section 24-32-4, 2,440 feet; No. 6 Ditmer, NW cor. NE SW, 1,560 feet; No. 7 Ditmer, NE cor. NW SW, 2,700 feet; No. 9 Kukuk, NW cor. SW NE, Section 24-32-4, rigging up; No. 10, SW cor. NW NE, Section 24-32-4, drilling at 1,015 feet; No. 11, NW cor. NE, 1,160 feet; No. 8 Wallace, NW cor. SE, 450 feet; Alcorn Oil Co. and Marland Oil Co.'s No. 1 Lierman, SE cor. SW, Section 13-32-4, 3,052 feet; Gypsy Oil Co.'s No. 3 Shannon, SE cor. NW, Section 24-32-4, 2,810 feet; No. 4, SW cor. SE NW, setting 8-inch at 2,122 feet; No. 5, NE cor. NW, shut down; No. 6, N7 cor. SE NW, 600 feet; White Eagle Refining Co.'s No. 1 Dinger, NW cor. NE NW, Section 25-32-4, shut down at 250 feet; Neely and others' No. 1 Rockwell, SW cor. NE, Section 13-32-4, 1,935 feet, and Sinclair Oil & Gas Co.'s No. 1 Spengler, SE cor. NW, Section 13-32-4, 370 feet.

### Cowley County Pools

In the Graham Pool, the Marland Refining Co.'s No. 2 Woods, SE cor. NE NE, Section 9-33-3, swabbed 232 bbls. in 24 hours from sand at 2,558-64 feet. No. 2 Wright, SW cor. NW NW, Section 10-33-3, swabbed 150 bbls. from sand at 2,560-67 feet.

Neely Brothers and the Marland Refining Co.'s No. 1 Holt, NE cor. SE SE, Section 12-32-4, swabbed 35 bbls. in 10 hours after a 10-quart shot in sand at 2,517-24 feet.

Nathan & Brinn's No. 2 Goff, NW cor. NE NW, Section 20-34-4, was making 150,000 feet of gas from sand at 659-64 feet.

The Trees Oil Co.'s No. 1 Shaffer, SE cor. NE, Section 10-31-3, swabbed 250 bbls. in two days from sands at 3,033-47 feet and 3,054-64 feet.

Other operations in Cowley County include T. B. Slick's No. 1 Waite, NE cor. NE SW, Section 19-32-3, drilling at 425 feet; Waite Phillips Co.'s No. 1 Patterson, SE cor. SE NE, Section 18-33-3, drilling at 515 feet; Waite Phillips Co. and others' No. 2 Glasgow, NE cor. SE SW, Section 20-33-3, drilling at 450 feet; Waite Phillips Co.'s No. 8 Wertman, NE cor. NE NW, Section 20-33-3, drilling at 725 feet; Waite Phillips Co. and others' No. 9 Wertman, SW cor. NW NE, Section 20-33-3, drilling at 335 feet; Waite Phillips Co.'s No. 1 Snyder, SW cor. Section 21-33-3, drilling at 465 feet; same company's No. 1-A True, NE cor. NE NW, Section 29-33-3, rig up for twin well; Foster Petroleum Co.'s No. 1 McKnobb, SW cor. SW SE, Section 3-32-4, spudding; Sinclair Oil & Gas Co.'s No. 1 Spaulding, SE cor. SE NW, Section 13-32-4, spudding; J. A. Hull Oil Co.'s No. 4 Newman, NW cor. NE SW, Section 24-32-4, spudding; White Eagle Refining Co.'s No. 2 Dingee, NW cor. NE NW, Section 25-32-4, rigging; Arkansas Fuel Co.'s No. 2 Crotsley, NW cor. NW SW, Section 7-32-5, spudding, and the Kanotex Refining Co.'s No. 2 Goff, NE cor. SE SW, Section 17-34-4, spudding.

Marland Oil Co.'s No. 5 Graham, SW cor. SE NE, Section 9-33-3, in the Graham Pool, was spudding.

T. B. Slick and the Marland Oil Co.'s No. 1 Haskett, C SE SE NW, Section 19-33-3, spudding at 610 feet.

### Sumner County

Two dry holes were reported from Sumner County: The Phillips Petroleum Co.'s No. 1 Felt, NW cor. Section 8-33-3w, at 4,447 feet, and the same company's No. 1 Brummett, C NW NW SW, Section 27-32-2w, at 4,265 feet.

New operations in Sumner County include Waite Phillips Co. and others' No. 1 Hawkins, SW cor. NE, Section 9-32-1, spudding; Phillips Petroleum Co.'s No. 1 Smith, SW cor. SE, Section 12-30-4w, spudding; Shawver & Strosnyder moving in tools for No. 1 Cutler, SW cor. SW NW, Section 7-30-1w; Phillips Petroleum Co.'s No. 1 Smith, C SW SW SE, Section 12-30-4w, spudding at 250 feet.

### In Greenwood County

Bisagno and others' No. 3 Diggs, SW cor. NE NE, Section 6-25-13, in Greenwood County, had 400 feet of oil in the hole from sand at 1,539-52 feet, and was to have been shot. The same owners' No. 1 Gillary, NE cor. SW NE NE, Section 6-25-13, was dry and abandoned at 1,644 feet.

The Theta Oil Co.'s No. 1 Pixlee, SW cor. SW SE, Section 8-22-10, was flowing 20 bbls. from sand at 2,310-84 feet.

Murphy and others' No. 1 Nuttle, NW cor. SW SE, Section 2-23-9, found sand at 2,337-76 feet, and was good for 10 bbls. after a 60-quart shot.

The Magnolia Petroleum Co.'s No. 2 Kuhn, SW cor. SW NE, Section 28-26-9, shut in 8,000,000 feet of gas at 953-85 feet.

Bisagno and others' No. 1 Diggs, SW cor. NE NE, Section 6-25-13, was shot with 80 quarts in sand at 1,539-52 feet, and was good for 60 bbls. The same owners' No. 1 Gillary, NE cor. SW NE, Section 6-25-13, was dry and abandoned at 1,644 feet.

The Tidal Oil Co.'s No. 3 South, C NW SE SW, Section 22-22-11, found sand at 1,923-51 feet, and was good for 40 bbls. after a 60-quart shot.

The Omar Oil Co.'s No. 1 Johnson, SE cor. SE NW, Section 16-24-12, was abandoned without spudding.

The Connel Petroleum Co. and the White Eagle Refining Co.'s No. 1 Coulter, SW cor. SE SE, Section 8-25-9, was dry and abandoned at 2,405 feet.

The Beacon Oil Co.'s No. 1 Weirshing, NE cor. NW NW, Section 24-26-9, pumped 137 bbls. in 16 hours from sand at 2,128-32 feet.

Simmons & Burke's No. 1 Derbyshire, NE cor. NW SE, Section 13-22-10, was making 60 bbls. after an 80-quart shot in sand at 2,085-2,135 feet.

Rhodes and others are rigging up No. 8 Browning, C SW SW SW, Section 17-22-10, in the Browning Pool.

Rodgers and others have a rig up for No. 9 Cartwright, SW cor. NW NW, Section 6-24-10. Rodgers & Bitler have a rig up for No. 1 Nuttle, C SW SW SE, Section 10-23-9.

McGinnis & Bitler's No. 1 Teeter, C SW SE NW, Section 15-23-9, was shot with 110 quarts in sand at 2,297-2,337 feet, and was good for 150 bbls. The same company's No. 2 Teeter, C NW SE NW, Section 15-23-9, was making 1,000,000 feet of gas from sand topped at 2,300 feet. No. 4 Teeter, C NE NE NW, Section 15-23-9, has a rig on the ground.

The Lewis Oil Co. was rigging up No. 2 Coulter, NW cor. SE, Section 9-25-9.

### Greenwood Operations

Other operations in Greenwood County include: Christy and others' No. 1 Cox, CEL NW NW, Section 31-24-13, drilling at 875 feet; Bisagno and others' No. 1 Diggs, SW cor. NE NE, Section 6-25-13, drilled to 1,565 feet in slate after sand at 1,539-52 feet with 400 feet of oil, was to shoot; Tidal Oil Co.'s No. 4 South, C SE NE SW, Section 22-22-11, rigging up; Skelly Oil Co.'s No. 1 Jones, CNL NE, Section 6-22-12, building rig; Omar Oil Co.'s No. 1 Johnson, SE cor. SE NW, Section 16-24-12, rigging up machine.

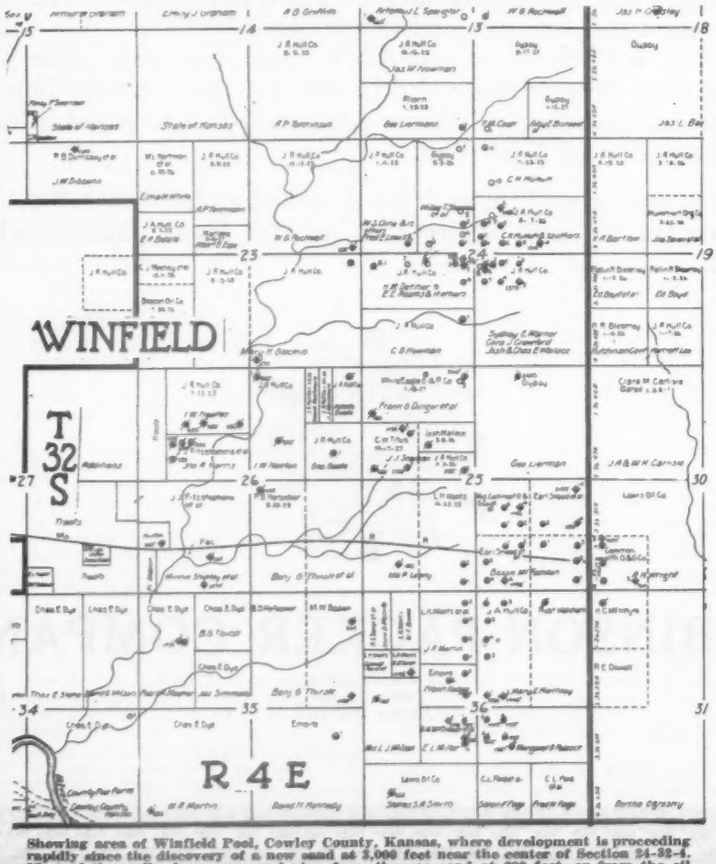
Simmons & Burk's No. 1 Curry, NE cor. NW SE, Section 13-22-10, in the Browning Pool, spudding; Allen and others' No. 1 Kipfer, SE cor. SW NE, Section 13-22-10, drilling at 1,200 feet; Syndicate Oil Co.'s No. 1 Kipfer, SW cor. SE NE, Section 13-22-10, drilling at 1,300 feet; Skelly Oil Co.'s No. 1 Kipfer, SE cor. SE NW, Section 13-22-10, drilling at 370 feet; Pryor & Lockhart's No. 2 Derbyshire, C SW NE SE, Section 13-22-10, drilling at 325 feet; Sinclair Oil & Gas Co.'s No. 8 Browning, C NW NW SW, Section 20-22-10, drilling at 400 feet.

Reverly and others have a rig up for No. 1 Hartley, SW cor. SW NE, Section 2-23-9. The Mid-Kansas Oil & Gas Co.'s No. 14 Martindale, SE cor. SW SW, Section 31-23-10, was drilling at 340 feet. The Federal Oil Co. was spudding No. 8 Cartwright, NE cor. NW NW, Section 6-24-10.

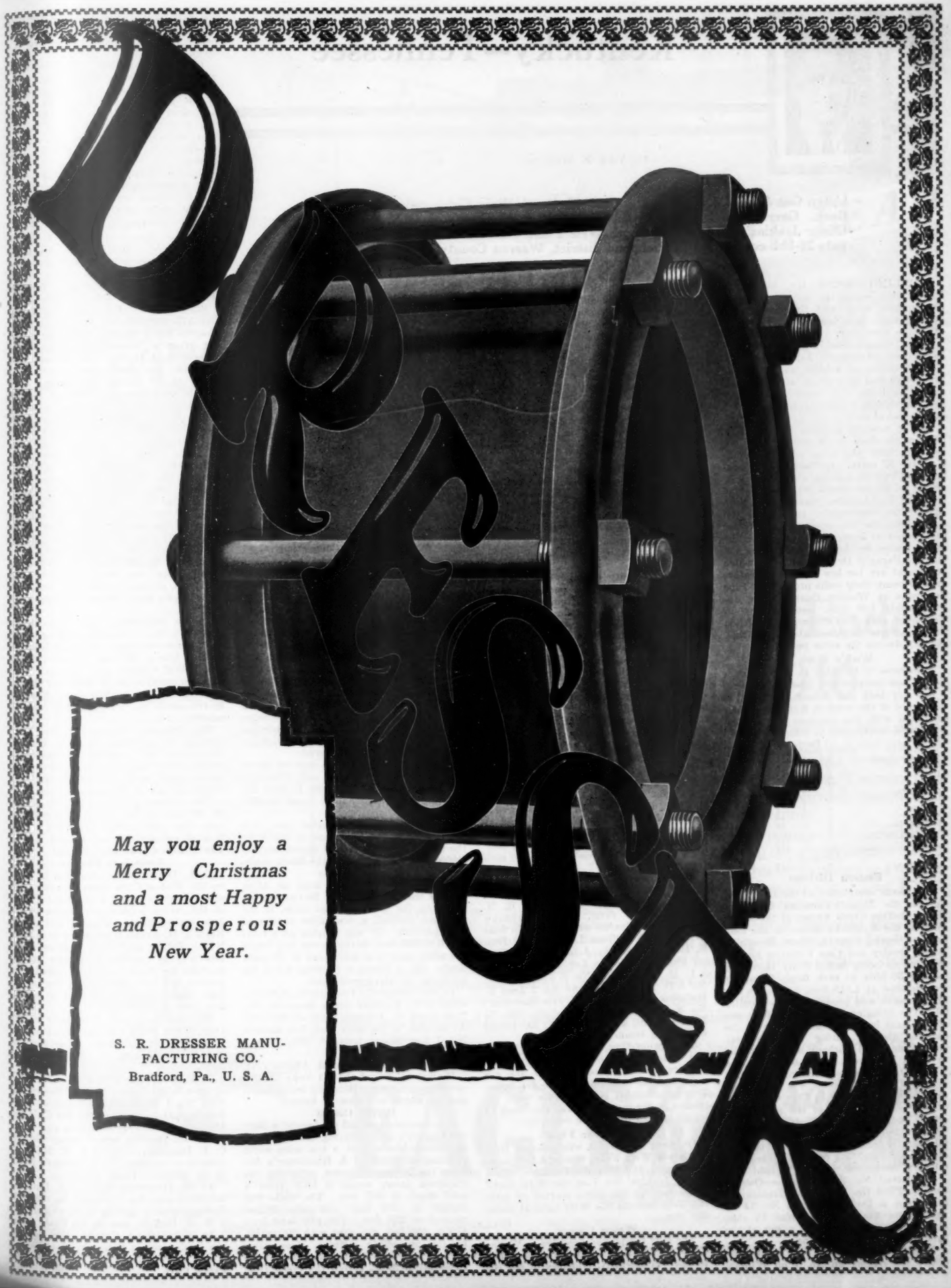
The Magnolia Petroleum Co. had a rig on the ground for No. 2 Kline, CEL NE NE NW, Section 28-26-9.

Davis, Hazlett and others were building a rig for No. 1 DeMalorie, SW cor. NW SW SW, Section 7-22-11. Milligan and others' No. 3 Bersie, SW cor. NW SE, Section 22-22-11, was drilling at 600 feet. The Tidal Oil Co. was rigging up No. 4 South, C SE NE SW, Section 22-22-11. The York State Oil Co.'s No. 10 DeMalorie, C NE NE SW, Section 32-22-11, was drilling at 750 feet; the Skelly Oil Co. has a rig building on No. 1 Jones, CNL NE, Section 6-22-12. The Omar Oil Co. was rigging up a machine on No. 1 Imm, SE cor. SE NW, Section 15-24-12.

(Continued on Page 85)




Showing area of Winfield Pool, Cowley County, Kansas, where development is proceeding rapidly since the discovery of a new sand at 3,000 feet near the center of Section 24-32-4. Most of the wells shown are producing from the gas sand at 600 feet, or from the oil sands at 1,400 and 2,300 feet. There are 15 wells drilling to the deeper pay.




*May you enjoy a Merry Christmas and a most Happy and Prosperous New Year.*

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# Kentucky—Tennessee

By Vern T. Whitney

**Union Gas & Oil Co.'s No. 3 J. J. Gambill, North Weir Field, makes 50 bbls. flush. Garrison & Townsend's Nos. 9 and 10 C. K. Doybyne, 40 bbls. each. Oliver Jenkins' No. 7 Sayler, South Weir Field, makes 25 bbls. Roy Hogan gets 30-bbl. completion in Richpond district, Warren County.**

BOWLING GREEN, Ky., Dec. 22.—The holiday season has put a quietus on development work and the majority of drilling wells have been shut down until after the new year.

Recent completions in Morgan, Elliott, Lee, Owsley, Lawrence, Johnson and Magoffin Counties of wildcat nature proved productive and as acreage in these counties is held by well financed companies and individuals a light drilling campaign can be looked for.

In the western division there will be little work done in Warren and Allen Counties until the price advances to at least the $2 mark. In Barren and Cumberland Counties activity will no doubt increase as the operators are receiving the Somerset Light prices, posted by the Seep Agency, for their crude. In Warren and Allen Counties the producers must, for the present at least, be satisfied with the prices posted by the Indian Refining Co. and the Paragon Development Co., which at present are too low for the operators even to pump their wells profitably. Pipe line runs in Warren County show approximately 140 bbls. less per day in November than in October, while Allen County's runs decreased about 260 bbls. per day during the same period.

### Week's Work

A decrease of 156 bbls. in flush production, 8 less completions, 5 less producers, 1 less dry hole and 2 less gas wells is the record of the week in Kentucky when compared with the previous week. The wells were distributed as follows:

| County— | Comp. | Wells | Prod. | Dry | Gas |
|---|---|---|---|---|---|
| Lawrence-Johnson .. | 3 | 3 | 130 | 0 | 0 |
| Warren ..... | 3 | 1 | 30 | 2 | 0 |
| Allen ..... | 3 | 2 | 41 | 1 | 0 |
| Barren ..... | 4 | 4 | 20 | 0 | 0 |
| Cumberland ..... | 1 | 0 | 0 | 1 | 0 |
| Wayne ..... | 1 | 1 | 3 | 0 | 0 |
| Morgan ..... | 1 | 1 | 8 | 0 | 0 |
| Lee-Owsley ..... | 1 | 1 | 15 | 0 | 0 |
| Johnson-Magoffin .. | 1 | 1 | 25 | 0 | 0 |
| Total ..... | 18 | 14 | 272 | 4 | 0 |
| Total last week .. | 26 | 19 | 428 | 5 | 2 |
| Difference ..... | 8 | 5 | 156 | 1 | 2 |

### Eastern Division

The recent completion of the Henry Oil Co. on the Daniels-Foreman tract, on Upper Buffalo Creek waters of the South Fork of the Kentucky River, in the long neck of Owsley County, where Breathitt, Perry, Owsley and Clay Counties join, is reported as being flowed every third day making 30 bbls. at each flow. This test was finished at 1,118 feet, 14 feet in the Maxon sand, and produces a fine quality oil. The bringing in of this well is one of the most important happenings in the eastern district during the past six months and will without a doubt result in much new work being started. The Henry Oil Co. is now drilling its No. 2 on the Daniels-Foreman. A well being drilled at Cradle Bow in Clay County, is on the southeast side of the same anticline, under which the aforementioned well was drilled, and should show production. Late reports state it is shut down at about 1,500 feet owing to some difficulty about the title to the land.

In district No. 35 of the Lee-Owsley County Field the Petroleum Exploration and Hupp & Duff brought in No. 14 on the Spence Flannery place for 15 bbls. at 1,300 feet. No. 15 is on top of the sand and No. 16 is spudding.

In Owsley County, C. W. Friend and others are rigging up No. 1 on William Gabbard on Little Sturgeon Creek, southwest of the Petroleum Exploration Co.'s gas field. Carl Prather is moving a rig to a location on the Mahaffe farm on the waters of Big Sturgeon Creek also to the southwest of the gas field. The Williams-Edward Oil Co.'s No. 1 Edgar Mainous, 3 miles south of Idamay, was 70 feet in the sand at last report without a showing. H. O. Randall and others' No. 1 Molly Rowland is being cleaned out after an 80-quart shot. The Addison well 1 mile south of Idamay on Duck Fork is showing for a good gasser in the Idamay pay.

### Morgan County Test

It is reported that Wheeler and others' No. 1 test, 1 mile above Elk Fork Post Office, in Morgan County, is good for 8 bbls. from the Weir sand. If the report is correct it means the North Weir Field of Johnson County, 6 miles to the west of the test, might be extended by further testing.

Morgan County contains the one-time famous Cannel City oil pool, drilled in with gusher production from a few wells in 1912. Some showed flush production which reached 700 bbls. This field produced its maximum of 12,000 bbls. of crude oil per month in 1913. Production came from the Onondaga limestone and was held in the porous strata on the anticline. Near West Liberty, the county seat of Morgan County, a small field has been developed.

The Petroleum Exploration Co. is now drilling No. 6 Kendall in the vicinity of Licking River.

### North Weir Field

In the North Weir Field of Lawrence and Johnson Counties, the best well was the Union Gas & Oil Co.'s No. 35 J. J. Gambill, district No. 22, which showed a flush of 50 bbls. from the Weir sand at approximately 700 feet. In the same district, Garrison & Townsend finished Nos. 9 and 10 C. K. Dobyne for 40 bbls. each from the Weir sand.

The Union Gas & Oil Co. is rigging up to drill No. 4 C. K. Dobyne, No. 1 farm, and is moving in to drill No. 2 R. N. Sparks No. 1 farm. This company's No. 1 Caney Sparks was drilling in lime as was No. 8 William Lester, No. 3 Jean E. Holbrook, on No. 1 farm, No. 2 Foster Ferguson, No. 18 Levisa Skaggs, No. 9 L. H. Skaggs and No. 6 James Diles; No. 6 D. H. Ferguson and No. 2 Jean E. Holbrook, on No. 2 farm, were spudding; No. 8 J. C. Gillen No. 1 farm, No. 35 J. J. Gambill and No. 4 W. D. Lester were being cleaned out.

The Union Gas & Oil Co. has drilled 578 wells in the North Weir Field; 501 of them are oil producers, 69 are gas wells and the remaining 8 are dry holes. This development is one of the most extensive in the country of any one block of leases carried on by one company.

### South Weir Field

Only one completion was reported from the South Weir Field, comprised of parts of Johnson and Magoffin Counties. It is Oliver Jenkins' No. 7 on the Sayle heirs' in district No. 31, which started off making 25 bbls. from the Weir sand at about 882 feet.

### Wayne County

The only completion recorded in Wayne County the past week was a 3-bbl. pumper on the J. N. Huffaker in the Big Sinking section of district No. 13. Bridgman and others who are developing this lease, have another well on top of the pay sand.

Pipe line returns from western Kentucky for November show a decrease of 11,497.20 bbls., compared with October. This decrease is partly due to oil in storage tanks waiting to be steamed and also on account of some producers holding their crude for higher prices. The runs were distributed by counties as follows:

| | Runs | Increase | Decrease |
|---|---|---|---|
| Warren ..... | 42,512.97 | ..... | 4,196.21 |
| Allen ..... | 24,928.10 | ..... | 7,829.44 |
| Owensboro dist. | 11,116.39 | ..... | 1,651.61 |
| Barren ..... | 10,675.61 | ..... | 797.89 |
| Cumberland- | | | |
| Monroe ..... | 9,235.13 | 2,608.84 | ..... |
| Simpson ..... | 1,629.84 | 429.24 | ..... |
| Hopkins ..... | 1,139.87 | ..... | 60.13 |
| Nov. runs ... | 101,237.91 | 3,038.08 | 14,535.28 |
| Oct. runs .... | 112,735.11 | | |
| Difference ... | 11,497.20 | | |

### Warren County Completions

The best completion for the week in Warren County is Roy Hogan's No. 3 Ben Ford in the Richpond section, near Rockfield, in the vicinity of the poor farm. This well started off at around 30 bbls. It was finished at a total depth of 460 feet after 12 feet of Mississippian lime was shot with 30 quarts of nitro. Hogan is starting No. 4 Ford, which will be an offset to No. 1 Shannon, and No. 12 Smith. This same operator is spudding in No. 3 C. L. Dillard to offset No. 2 on the same lease and but one location west of No. 1 Ben Ford. In the same pool, Bolling & Loman's No. 2 Shannon and Wiles and others' No. 4 Shannon are both nearing the pay sand.

In the Davenport Pool, west of Bowling Green, Gipe, Carroll and Christian got a duster in No. 1 on the Perkins 10-acre tract in the shallow sand at 520 feet.

In the northeast extension area, the Wood Oil Co. got a dry one in No. 6 on the Oliver Grimes place at approximately 1,059 feet, 90 feet below the black shale.

### Allen County

The best well for the week in Allen County was that of R. A. McLain in his No. 6 on the Warren Frost lease, in the Rodemer section, a few miles southwest of Scottsville. It was finished at a total depth of 365 feet, in the second pay below the shale, and was estimated at 35 bbls. flush. No. 7 Frost is showing for a big producer in this deeper sand.

In the Gainesville Pool, north of Scottsville, O. C. Fletcher got a duster in No. 7 on the J. T. Johnson place at 420 feet. At Meador, in the same pool, Lee Moore's No. 1 Lee Moore tested 6 bbls. from a total depth of 420 feet.

It is reported Walker & Andrus' No. 6 Walker is in and that it looks like an excellent producer. It is now being tested and its worth will soon be known.

### Barren County

Four completions, all producers, is Barren County's record during the week. In the Emery-Moore Pool, a few miles south of Glasgow, Stafford & Rhoedener's No. 2 on the Neeley 80 acres, adjoining the Childress lease, tested 8 bbls. from a total depth of 457 feet. The shale was topped at 205 feet and was drilled through at 255 feet. The pay sand from 435 to 450 feet was shot with 30 quarts. In the immediate vicinity, these same parties drilled in a 3-bbl. pumper on the Price heirs' farm, across the creek from the Jackman lease of the JCS Oil Corp. at 305 feet. The sand found at 65 feet below the black shale was treated to a 20-quart shot.

In the Gorby Pool, 1¾ miles southwest of the Emery-Moore Pool, Porter and associates made a 3-bbl. pumper out of No. 1 McLaughlin after shooting the pay sand at 185 feet below the shale. The total depth of the well was 358 feet. The McLaughlin place is south of the Cassidy farm being developed by T. L. Gorby.

To the southwest of Glasgow on the Scottsville-Glasgow pike, Lewis J. Emery, Jr. & Sons are reported to have made a 6-bbl. strike on the Harston lease.

### Drilling Wells

In the Emery-Moore Pool, Ziegler Brothers, Scott & Hice's No. 3 Bradford will not be completed until next week as the operators have been having trouble shutting off water coming in from the shale; Star Oil Co.'s No. 13 Ritchie, No. 5 Starr and No. 4 Free were drilling at 300, 375 and 500 feet, respectively; Fred Moore's No. 2 Bruton was being cleaned out after a 30-quart shot; Reese and others' No. 1 Dodder was drilling at 125 feet. At this depth the formation was found to be broken up causing much trouble with large boulders and the hole was being straightened. The Henderson Oil Co.'s No. 3 Burris, drilling at 250 feet; Carter Oil Co.'s No. 1 Jess Wininger still waiting on casing.

In the Gorby Pool, southwest of the Emery-Moore Pool, T. L. Gorby's No. 1 Chamberlin, offsetting the Lessenberry, is being cleaned out; Lewis J. Emery, Jr. & Sons' No. 1 Greer, east of the Cassidy, was being tubed. According to reports 25 feet of sand was found in this test at 107 feet below the shale; Esslinger Oil Co.'s No. 1 Bud Mansfield was shut down at 410 feet with no showing of oil; Copel and Mazel Oil Co.'s No. 8 Childress, drilling at 200 feet; Stafford & Rhoedener's No. 3 Neeley, drilling at 125 feet.

In the Hall-Baker Pool, Consolidated Gas Co.'s No. 1 Poynter, drilling at 325 feet; same company's No. 2 Hall Baker, making hole at 250 feet; Wood Oil Co.'s No. 1 Will Church was waiting a shot; same company's No. 3 Will and Mildred Church, drilling at 250 feet; Norris & Harrington's No. 1 Evans, shut down for repairs.

The Paragon Development Co. is extending its gathering lines to the new Hall-Baker Pool and will be running oil within a few days. The line will without doubt result in quite a bit of new work after the first of the year.

The wildcat test of Lewis J. Emery, Jr. & Sons, on the C. W. Bellamy farm, near Bon Ayr, caught fire when a large flow of gas ignited and burned the rig. The driller was severely burned.

### Owensboro District

C. E. Daugherty is spudding in No. 1 on the Widow Crow lease, 2 miles south of the Herbert school house district, north of the recent wildcat completion on the Jess Swope farm. Thomas and others' No. 1 J. H. Evans is spudding in to offset No. 1 Collier at Collier Station. This test will be watched with keen interest as there are three producing wells in this section and the producers in the Owensboro district are trying hard to open a new field in this area.

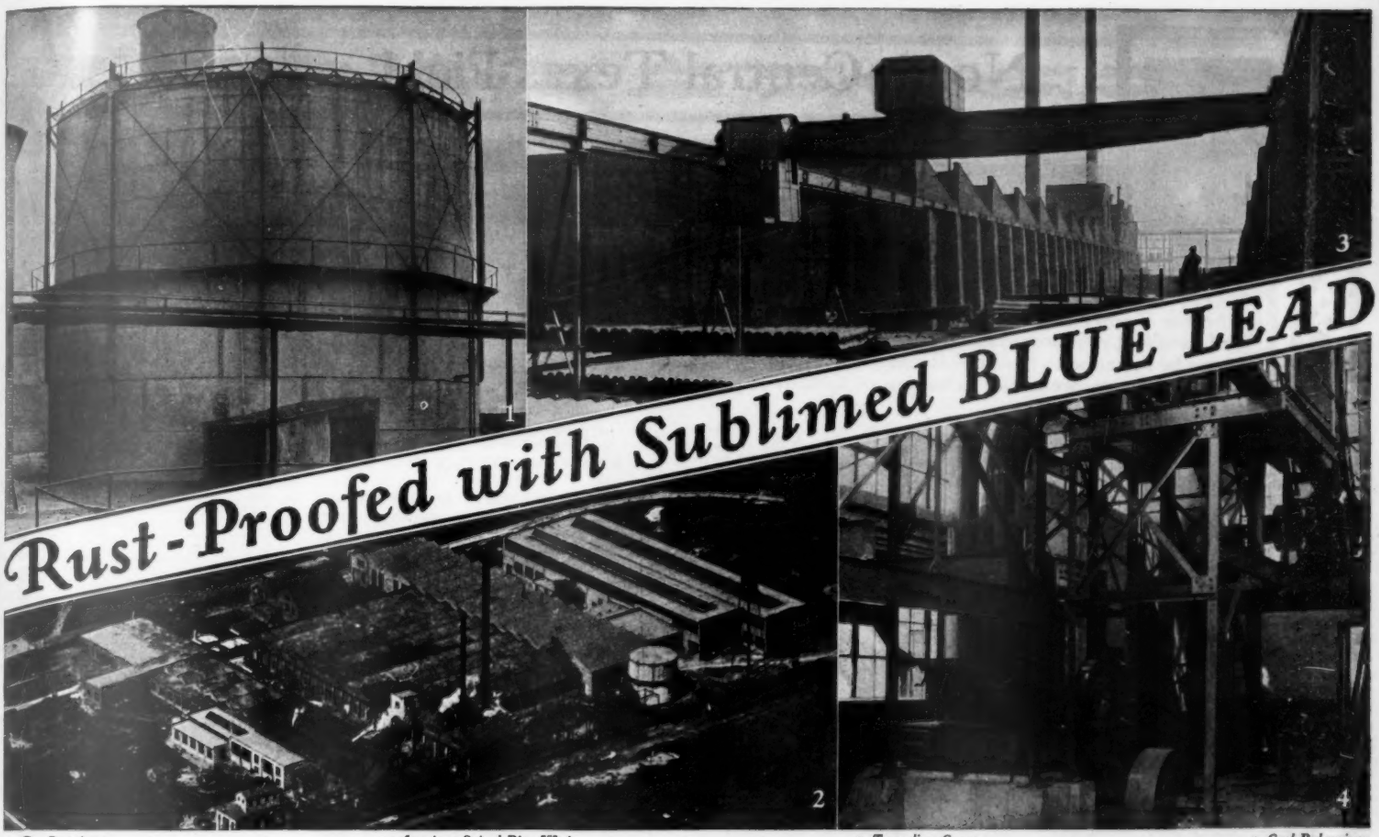
The test of C. E. Daugherty on the Ollie Ward farm was shut down with a fishing job at 750 feet. It is north of recent completions on the Dave King farm.

At Pellville, the Pellville Oil Co.'s No. 4 Brown was shut down; Mosley Oil Co.'s No. 1 M. Mosley was making headway at 300 feet; Kentucky Oil Co.'s No. 16 Amanda Stewart is rigging up.

In the Herbert school house district, C. E. Daugherty's No. 1 F. V. Miller 60 acres is a location; C. A. Leeper's No. 1 R. M. Miller is being rigged up.

In the Hurricane Pool, I. N. Harkless has a rig over No. 2 location on the Dirk Spurrier and is moving a rig to drill No. 1 W. T. Bickett, east on his Casey farm.

In Cumberland County, the test on the Rush lease at Otter Creek was abandoned at 851 feet, 251 feet below the Pencil Cave.

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# North-Central Texas Field

By Dan F. Dugan

**Archer County leads in completions with Stephens County second. Number of excellent producers indicated in Archer by near completions. Harmel Pool may be linked with Stampfli-Roberts Pool. Good production in Hausler tract. South Vernon promising extension of 1,300-foot pay.**

FORT WORTH, Tex., Dec. 22.—There was another gain in the average daily production of the North Central Texas oil fields this week. The total daily production for this week is 134,740 bbls., compared with a total last week of 133,870 bbls., a gain for this week of 870 bbls.

The largest increase in production was from the Iowa Park district or rather from Archer County. This territory had a daily production this week of 45,345 bbls., a gain of 1,650 bbls. over the production of last week. For the first time in several weeks the production of Eastland County showed a substantial gain. The production in that field this week is 6,695 bbls., a gain over last week of 825 bbls. The wildcat districts also showed a good increase due largely to the gain in Reagan County through the completion of new wells there. The gain in the wildcat territory amounted to 715 bbls. Reagan County now has a daily production of 10,695 bbls.

Burkburnett, Electra and Stephens County all registered losses for the week. The loss in the Burkburnett Field amounted to 860 bbls. Electra showed a decline of 920 bbls. and Stephens County fell off 540 bbls. from last week's runs.

There were a total of 65 completions in the territory this week more than 50 per cent of which were in Archer County alone. This compares with 62 completions the previous week. Of this week's completions 38 were oil producers, one a gas well and 26 dry holes. Out of the 62 completions last week, 33 were oil producers, 2 gas wells and 27 dry holes.

New production this week from the 38 new oil wells amounted to 6,210 bbls. against 6,350 bbls. last week from 33 producers. Of this week's new production 2,615 bbls. was from Archer County and 3,035 bbls. from one new well in Reagan County. Archer County reported 35 completions this week compared with 36 last week. There were 23 producers against 21 last week and 12 dry holes against 15.

### Stephens County Second

Stephens County ranked second in the number of completions with a total of seven. Three were oil wells with a combined production of 165 bbls. and four were dry holes. Wichita County reported only six new wells, four oil producers and two dry holes. Eastland County reported five completions, three oil producers, one gas well and one dry hole. New production amounted to 75 bbls. and the gas well had a daily output of 12,000,000 feet. Young County had five completions, one oil well with a daily production of 30 bbls. and four dry holes.

The wildcat districts accounted for seven completions, four of which were oil producers with 3,120 bbls. new production. There were three dry holes. The largest completion in the wildcat territory as well as anywhere in the district was the Texon Oil & Land Co.'s No. 2 Group 1, University, in Reagan County, which had a flush production of 3,035 bbls.

Several wells in Archer County are nearing completion with the promise of being excellent producers. The Humble Oil & Refining Co.'s No. 1 Oil Investment Co. in this county is reported to be making a nice showing. On the first test it made a little more than 100 bbls. in the first 14 hours at a depth of 1,195 feet. The No. 2 Oil Investment Co. of Lincoln and others is also reported showing for a producer though not completed. It is estimated to be making 50 bbls. daily at 1,110 feet.

Fisher and others' No. 1 Rogers, in the South Archer Field, is looming up as a very important completion. Late reports are that it is flowing at the rate of 150 bbls. daily from sand at 1,375 feet. The bringing in of this well a producer would practically link the Harmel pool with the Stampfli-Roberts Pool to the southwest. The Stampfli-Roberts district has recently been opened up as producing territory.

Gwynn and others' No. 2 Wood in this same general district is making an estimated 100 bbls. in sand at 1,300 feet and there are two wells on the Harmel showing for good producers, Murchison and others' No. 4-C Harmel, making an estimated 200 bbls. at 1,275 feet and the Mutual Oil Co.'s No. 3 Harmel, reported making 200 bbls. from sand at 1,275 feet.

On the Hausler tract, also South Archer Field, Ray and others have two wells nearing completion, both promising good production. They are No. 6 Hausler making an estimated 300 bbls. at 1,125 feet and No. 7 Hausler at the same depth reported flowing 550 bbls.

On the Hausler tract also the Texhoma Oil & Refining Co. has two near completions, both showing for production. This company's No. 9 on the Hausler is making an estimated 100 bbls. daily at 1,160 feet. The same company's No. 10 Hausler is reported flowing at the rate of 300 bbls. at 1,135 feet. In the same general district the Swastika Oil Co.'s No. 2 Neal, while not listed as a completion is reported making 100 bbls. at a depth of 1,095 feet.

### South Vernon Pool

The South Vernon Pool in Wilbarger County gives promise also of considerable new production in the next few days through more completions. Bridwell and others' No. 5 Stephens is reported swabbing 325 bbls. daily from sand at 1,830 feet. Kolp and others' No. 1 Waggoner, is swabbing an estimated 225 bbls. a day from a depth of 2,045 feet.

Another extension of about 1½ miles to the productive area of the 1,300-foot pay in this field is promised by the showing made in Staley and others' No. 1 Waggoner at that depth. The well, located in the southeast corner of Section 109 of the Waggoner land, found the top of the pay at 1,327 feet. It has set the casing and is now being bailed for a test. It is the furthest west well in the field to find the pay sand at this depth.

Mulligan and others seem to have made a new discovery in the South Vernon Pool. Their location to the south of Ray and others' producers on the Bond land has encountered a good looking sand at 1,007 feet. The sand was drilled into a total of 10 feet and is reported to have made a good showing of oil. The casing is being set and the well will be bailed and tested at this depth.

In this field the Humble Oil & Refining Co.'s No. 1 Castlebury is a near completion. It is reported making an estimated 500 bbls. daily from the regulation 1,300-foot level. This well is on the outer edge of the field, being more than a quarter of a mile southeast of the South Vernon Oil Co.'s No. 1 Stephens.

McCamey and others' No. 1 Stephens, another outside test is showing some signs of production. It is to the east of the Humble's Castlebury well. The McCamey well found the pay at 1,730 feet and after being cleaned out the hole filled 800 feet in oil in a few hours.

Northern Young County has a very likely looking wildcat according to late reports. It is Murchison and others' No. 1 Gambrell, about 5 miles northwest of the town of Olney and the same distance southeast of the producers in the Swastika Pool. The oil sand was found at 1,300 feet. The test will be bailed for an immediate test. Should this well prove a producer it will open up considerable new territory for development.

There is considerable lease buying in Throckmorton County, according to late reports. The Gulf Production Co. is reported to have recently purchased the lease on 4,480 acres out of the Davis Ranch lands 6 miles west and a mile south of the town of Throckmorton. Just to the south of this land the Texhoma Oil & Refining Co. has leased about 4,000 acres out of the Davis Ranch and the Reynolds Cattle Co. lands.

### PRODUCTION REPORT
**Week Ending December 18, 1924**

| | | |
|---|---|---|
| **Burkburnett** | | |
| Barkley & Meadows | 615 | |
| Humble Oil & Refining Co. | 480 | |
| Gulf Production Co. | 760 | |
| Magnolia Petroleum Co. | 2,980 | |
| McMan Oil Co. | 345 | |
| Panhandle Refining Co. | 335 | |
| Prairie Oil & Gas Co. | 20 | |
| Sinclair Oil & Gas Co. | 70 | |
| The Texas Co. | 550 | |
| Texhoma Oil & Refining Co. | 430 | |
| Miscellaneous | 9,445 | |
| Total | | 16,030 |
| **Electra** | | |
| Empire Gas & Fuel Co. | 1,200 | |
| Humble Oil & Refining Co. | 170 | |
| Griswold Oil Co. | 250 | |
| Gulf Production Co. | 880 | |
| Magnolia Petroleum Co. | 4,290 | |
| McMan Oil Co. | 190 | |
| Panhandle Refining Co. | 80 | |
| The Texas Co. | 4,015 | |
| Texhoma Oil & Refining Co. | 2,030 | |
| Miscellaneous | 5,350 | |
| Total | | 18,455 |
| **Iowa Park** | | |
| Griswold Oil Co. | 70 | |
| Gulf Production Co. | 35 | |
| Humble Oil & Refining Co. | 15 | |
| Panhandle Refining Co. | 65 | |
| Texhoma Oil & Refining Co. | 35 | |
| Miscellaneous | 3,635 | |
| **Archer County** | | |
| Empire Gas & Fuel Co. | 710 | |
| Griswold Oil Co. | 500 | |
| Gulf Production Co. | 2,500 | |
| Humble Oil & Refining Co. | 355 | |
| Magnolia Petroleum Co. | 465 | |
| Panhandle Refining Co. | 3,400 | |
| Prairie Oil & Gas Co. | 1,150 | |
| The Texas Co. | 625 | |
| Texhoma Oil & Refining Co. | 2,945 | |
| Miscellaneous | 28,490 | |
| **Petrolia** | | |
| Gulf Production Co. | 50 | |
| Magnolia Petroleum Co. | 20 | |
| The Texas Co. | 70 | |
| Miscellaneous | 210 | |
| Total | | 45,345 |
| **Stephens County** | | |
| Empire Gas & Fuel Co. | 85 | |
| Gulf Production Co. | 1,315 | |
| Humble Oil & Refining Co | 955 | |
| Magnolia Petroleum Co | 625 | |
| Mid-Kansas Oil & Gas Co. | 1,925 | |
| Prairie Oil & Gas Co | 960 | |
| Sinclair Oil & Gas Co. | 100 | |
| Sun Oil Co | 285 | |
| The Texas Co | 1,860 | |
| Texas Pacific Coal & Oil Co. | 990 | |
| Miscellaneous | 6,755 | |
| Total | | 15,845 |
| **Eastland County** | | |
| Gulf Production Co | 380 | |
| Humble Oil & Refining Co | 75 | |
| Magnolia Petroleum Co | 565 | |
| Panhandle Refining Co | 325 | |
| Prairie Oil & Gas Co | 615 | |
| Sinclair Oil & Gas Co | 435 | |
| The Texas Co | 225 | |
| Texas Pacific Coal & Oil Co. | 960 | |
| Miscellaneous | 3,115 | |
| Total | | 6,695 |
| **Other Fields** | | |
| **Strawn—** | | |
| Texas Pacific Coal & Oil Co. | 235 | |
| Miscellaneous | 470 | |
| **Moran—** | | |
| Empire Gas & Fuel Co. | 60 | |
| Humble Oil & Refining Co. | 345 | |
| The Texas Co. | 135 | |
| Texhoma Oil & Refining Co. | 140 | |
| Miscellaneous | 1,850 | |
| **Coleman County—** | | |
| Miscellaneous | 70 | |
| **Brown County—** | | |
| Miscellaneous | 925 | |
| **Comanche-Eastland—** | | |
| Humble Oil & Refining Co. | 225 | |
| Magnolia Petroleum Co. | 1,265 | |
| Mid-Kansas Oil & Gas Co. | 255 | |
| Sinclair Oil & Gas Co. | 35 | |
| The Texas Co. | 170 | |
| Texas Pacific Coal & Oil Co. | 135 | |
| Miscellaneous | 2,060 | |
| **Young County—** | | |
| Gulf Production Co. | 90 | |
| Sinclair Oil & Gas Co. | 440 | |
| Panhandle Refining Co. | 190 | |
| The Texas Co. | 45 | |
| Miscellaneous | 3,100 | |
| Mitchell County | 1,500 | |
| Reagan County | 10,695 | |
| Jack County | 25 | |
| Scurry County | 50 | |
| Carson County | 1,065 | |
| Hutchinson County | 205 | |
| Callahan County | 1,585 | |
| Wilbarger County | 4,955 | |
| Total | | 32,370 |
| Total this week | | 134,740 |
| Total last week | | 133,870 |
| Gain | | 870 |

### Witchita County Completions

Cook and others' No. 1 Throckmorton, pumping 5 bbls. at 970 feet; Hawkins and others' No. 1 Watkins, pumping 85 bbls. at 1,760 feet; Kruger and others' No. 9 Allen & Kemp, pumping 30 bbls. at 1,185 feet; Murray and others' No. 1 Fee, dry at 1,800 feet; The Texas Co.'s No. 1 Kemp & Kemper, dry at 2,000 feet; Texhoma Oil & Refining Co. and others' No. 2-B Burnett, pumping 75 bbls. at 1,820 feet.

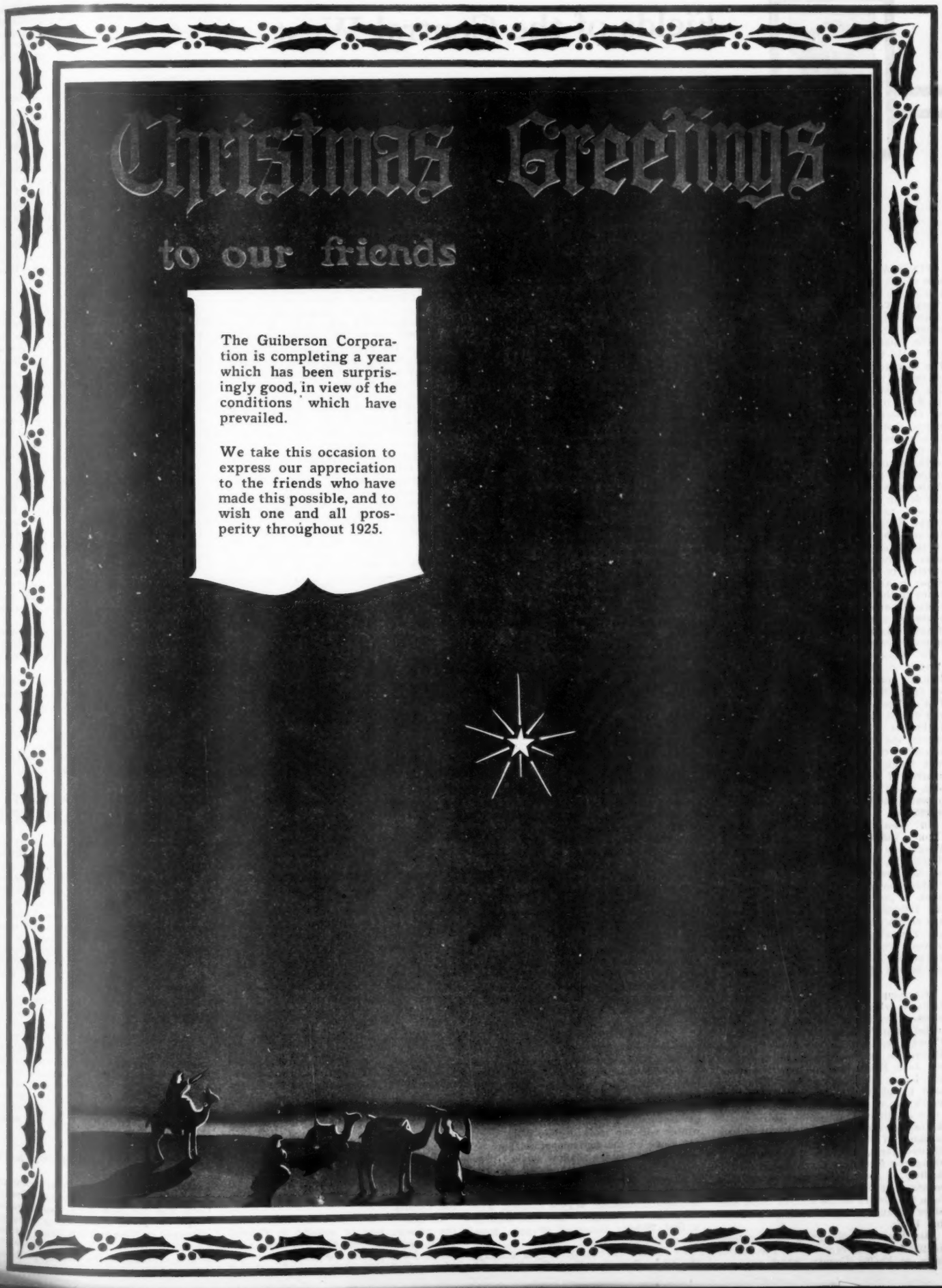
### Archer County Completions

A. B. C. Oil Co.'s No. 3 Ferguson, pumping 15 bbls. at 1,765 feet; Carter and others' No. 15-A White, making 75 bbls. at 1,600 feet; Dorrington and others' No. 1 Coffman, dry at 1,450 feet; Humphries and others' No. 9 White, 185 bbls. at 1,610 feet; same company's No. 12 White, 80 bbls. at 1,620 feet; Magnolia Petroleum Co.'s No. 11 Parrish, 100 bbls. at 1,600 feet; Murchison and others' No. 5 White, 60 bbls. at 1,590 feet; Ramming and others' No. 5 Wilson, 40 bbls. at 1,595 feet; Rayzor and others' No. 1 Edwards, dry at 1,600 feet; Riner and others' No. 3-A Wilson, dry at 1,825 feet; Woodburn Oil Corp.'s No. 15-A Wilson, 45 bbls. at 1,625 feet; Clark and others' No. 5 Echols, 30 bbls. at 1,325 feet; Cline and others' No. 1 Cowan, dry at 1,700 feet; Consolidated Oil Co.'s No. 7-B Ragle, 10 bbls. at 1,095 feet; Duke and others' No. 1 Turbeville, dry at 1,205 feet; Gwynn and others' No. 4 Rogers, 75 bbls. at 1,285 feet; Grisham and others' No. 5 Davis, 100 bbls. at 1,090 feet; Harris and others' No. 1 Stampfli, 150 bbls. at 1,255 feet; Harris and others' No. 1 Martin, dry at 1,500 feet; Humble Oil & Refining Co.'s No. 1 Wood, 385 bbls. at 1,305 feet; Lyles and others' No. 1 Norton, dry at 1,200 feet; Melat and others' No. 2 Goldsmith, 30 bbls. at 1,350 feet; Murchison and others' No. 2-B Harmel, 300 bbls. at 1,290 feet; same company's No. 2-C Harmel, 190 bbls. at 1,280 feet; same company's No. 6 Griffin, 70 bbls. at 1,290 feet; same company's No. 7 Griffin, 75 bbls. at 1,290 feet; same company's No. 2 Wood, 200 bbls. at 1,300 feet; same company's No. 3 Wood, 225 bbls. at 1,295 feet; Petroleum Producers Co.'s No. 5 Rogers, 90 bbls. at 1,275 feet; same company's No. 6 Rogers, 85 bbls. at 1,275 feet; Ramming and others' No. 1-B Andrews, dry at 1,020 feet; Scruggs and others' No. 1 Morrison, dry at 1,000 feet; Shamrock Oil Co.'s No. 4 Campbell, dry at 1,080 feet.

### Stephens County Completions

Mid-Kansas Oil & Gas Co.'s No. 3 Lee, 55 bbls. at 3,270 feet; Fouts and others' No. 1 McClesky, dry at 3,850 feet; Magnolia Petroleum Co.'s No. 1 Taylor, dry at 3,960 feet; Pender Production Co.'s No 1 Hart, 90 bbls. at 3,300 feet; Pennock Oil Co.'s No. 1-B

(Continued on Page 60)


Christmas Greetings
to our friends
The Guiberson Corporation is completing a year which has been surprisingly good, in view of the conditions which have prevailed.
We take this occasion to express our appreciation to the friends who have made this possible, and to wish one and all prosperity throughout 1925.

# Fields of the Central West

By Whit

**Best completion in the old Lima Field A. J. Metzger's second test, Fetter farm, Hopewell Township, Mercer County, making 20 bbls. Much leasing in Hardin County following 100-bbl. producer on Zimmerman farm. Ohio Oil Co. gets 40-bbl. completion, Wooster Township, Wayne County.**

FINDLAY, Ohio, Dec. 22.—The nearness of the holiday season brought about a slump in new work in all parts of the Central West area and the first real touch of winter caused the shutting down of many drilling wells.

The Lima Field of northwestern Ohio had little to show in new completions. The best was drilled by A. J. Metzger in his second test, 1,100 feet from the north line and 250 feet from the east line of the S. Fetter farm, in the southeast quarter of Section 20, Hopewell Township, Mercer County. The production the first 24 hours totaled 20 bbls. This section of the county is destined to get a play when early summer arrives and a slight increase in the price of crude is made. Butler Township, same county, is also in line for an active drilling campaign later as are numerous sections of Mercer, Darke, Shelby, Van Wert, Paulding, Hardin and other sections of the western part of the Lima Field. The new development westward a few mile from Wapakonetta, in Moulton and adjoining townships, in Auglaize County, looks very inviting to the trade. No big wells are expected in any of these areas, but normal producers are the ones sought after, and if any gushers are found, the owners will be much pleased.

In Mississinewa Township, Darke County, N. E. Crothers and others' No. 4 on the northeast corner of the P. Stachler farm, Section 2, proved a dry hole. Top of Trenton was found at 1,198 feet and drilled 32 feet in to a total depth of 1,230 feet. In Wayne Township, same county, the wildcat well of Fred Biel and others on the northeast corner of the Joseph Manier, St., farm, in the northeast quarter of Section 17, that produced 8 bbls. of oil the first 24 hours then went to water and looks as though it may prove worthless.

In Van Buren Township, Shelby County, the second test drilled by W. M. Morgan on the Fred Hagermeyer farm, Section 18, which had a fair showing of oil, has been abandoned.

Much leasing has been done during the week in parts of Hardin County, where the 100-bbl. well was reported a week ago on the Zimmerman farm, in McDonald Township, by Whipple, Ulrich and others. This is really the best producer yet struck in that county and may mean the finding of a more extensive pool.

### Indiana

Six completions are reported from the Indiana fields during the week. In the southern section of the State, in what is called the Corydon Field, Harrison County, and not far north of the Ohio River, the Railroaders Oil Co.'s well on the John Blake farm, is reported showing for a 10-bbl. producer. This may lead to additional test work along the north side of the Ohio River.

In Hamilton County, the Sheridan Oil & Gas Co. struck a gas well with a rock pressure of 255 pounds in a test on the Roberts farm, which may open up something new for future development, for the finding of gas in that part of the field means that oil lies nearby, as that has been the history of the Indiana Field ever since oil and gas was found in the Trenton Rock.

Another gas well with a rock pressure of 190 pounds is reported on the Phares farm, in Shelby County, which may develop something more productive when better tested.

In Turman Township, Sullivan County, H. Stewart and others' No 1 in the northeast corner of the R. Abell farm, Section 14, pumped 8 bbls. at 825 feet. In Gill Township, same county, Fred Bays' No. 1, located 600 feet from the north line and 200 feet from the west line of the James Springer farm, in the northeast quarter of Section 12, showed a gas volume of 115,000 feet at a depth of 547 feet.

In the Princeton district in southwestern Indiana, in Center Township, Gibson County, Tichenour & Edward drilled in a second test on the southeast corner of the W. Steiner farm, in northwest quarter of Section 34, which proved a duster at 1,635 feet.

### Illinois

Three dry holes and one small pumper is the extent of the Illinois Field for the week, and work is on the decline in all parts of the field, and very little is accomplished during the cold winter months. In Casey Township, Clark County, Boyd, Heaton and others' No. 2, in the southwest corner of the J. Laigner farm, Section 24, pumped 8 bbls. at a depth of 485 feet, in the regular Casey sand.

The test well which has been drilling for some time by the Arkansas Fuel Oil Co., Hartman & Parrott, located 1,120 feet north from the north line and 200 feet from the east line of the Otis Matheney farm, in the southeast quarter of Section 18, Friendsville Township, Wabash County, was a duster at a total depth of 2,190 feet, failing to find commercial production in the Biehl, Jordan or other known sands of that area. This well is southwest of the Delia Wright Pool, and the same direction from the town of Allendale.

In Wabash Township, Wabash County, Timberlake and others drilled a duster in a test on the southeast corner of the William Stillwell farm, in the northeast quarter of Section 21, and southeast a couple of miles from Allendale, also proved a dusted at 1,475 feet. Whiteside and others' No. 1, located 200 feet from the north line and 600 feet from the west line of the L. Chapman farm, in the northwest quarter of Section 25, and just north of the Wabash River and northeast from the hamlet of Patton, was a duster at a depth around 1,600 feet. Work has quieted down to a large extent in the Allendale Field, and according to advice little will be accomplished during the cold weather.

### Central Ohio

An even dozen wells were reported in the Central Ohio division during the week with 3 oil wells, a flush production of 60 bbls., 3 dry holes and 6 gas wells. In new work 14 wells were started drilling and 6 new locations staked out, which is not bad for this season, and indicates the winter will see more or less work done not alone by the gas companies, but the oil producers in the shallow sands.

The best oil producer found for the week was the Ohio Oil Co.'s No. 1 on the Lee N. Martin farm, Section 31, Wooster Township, Wayne County, and southeast of Wooster. The well showed a first 24-hour gauge of 40 bbls. from the deep Clinton sand.

In Cannan Township, Wayne County, the Ohio Fuel Gas Co.'s No. 1, in the northeast corner of the Clara L. Sells farm, Section 10, is a fair gas well at a depth of 3,250 feet. Same company's No. 3 William S. Smith, Section 21, showed a production of 4 bbls. of oil and close to 500,000 feet of gas. Same company's No. 3 on the southeast corner of the S. Whonsettler farm, Section 16, is also a good gas well at 3,200 feet deep. Daugherty Brothers brought in a fair gas well at a test on the Yoder farm, Section 24. Arthur & Mills' No. 3 on the E. and S. Myers farm, Section 29, is reported at 15 bbls. from a depth of 3,250 feet which is the Clinton formation.

In York Township, Medina County, the Logan Gas Co.'s No. 2 on the E. M. Brintall farm, Section 22, York Township, showed rather light when drilled in, but a 20-quart shot made an excellent gas well out of it. This company's No. 4 on the Medina County Infirmary farm Section 5, Lafayette Township, was only drilled to 3,000 feet and pronounced a dry hole as was its test on the Mary McClary farm, Section 8, at a depth of 3,100 feet.

In Monroe Township, Holmes County, the Rock River Development Co.'s No. 4 on the C. C. Jarvis farm, Section 11, is a light gas well. In Prairie Township, same county, the Ohio Oil Co.'s No. 1 on the R. and E. Robinson farm, Section 3, is a 5-bbl. pumper.

In Franklin Township, Jackson County, the Logan Gas Co. struck a nice gas well at a test on the M. L. Kinnison farm, Section 12.

In Litchfield Township, Medina County, the East Ohio Gas Co.'s test on the northwest corner of the Frank Busser farm, in Lot 46, proved a duster at 3,050 feet and in the Clinton sand.

### New Developments

J. B. Reed and others started a test drilling on the southwest corner of the Blanche Reed 20 acres, Section 14, Brown Township, Knox County.

In Hanover Township, Ashland County, the East Ohio Gas Co. has started drilling No. 1 on the H. Bockman farm, Section 26.

In York Township, Medina County, the Ohio Fuel Gas Co. is drilling No. 1 on the Ada G. Swartz, Section 18.

In Wooster Township, Wayne County, the Ohio Oil Co. is drilling a second test on the southeast corner of the William M. Orr 73 acres, Section 21, and made a location for No. 3 on the northwest corner of the James W. Correll 121 acres, Section 21. In Congress Township, Harmon and others are drilling No. 1 on the southwest corner of the J. W. Sheppard 103 acres, Section 29, and Hulse & Kuntz are drilling No. 2 on the southwest corner of the Mary N. Schilling 160 acres, Section 8. In Cannan Township, Brinkerhoff and others are drilling No. 4 on the northeast corner of the H. H. Armstrong 160 acres, Section 30, and the Ohio Fuel Gas Co. is drilling a second test on the E. J. Betz 61 acres, Section 16.

The Ohio Fuel Gas Co. has started the drill at No. 5 on the E. C. Wortham 96 acres, Section 18, Clinton Township, Vinton County.

In Monroe Township, Holmes County, the present seat of activity in Central Ohio, the East Ohio Gas Co. made a location for a test on the northeast corner of the F. C. Close 100 acres, Lot 9, and for No. 1 on the southwest corner of the B. C. Bird 104 acres, Lot 4. In Kilbuck Township, same county, A. L. Harbison and others located No. 6 on the northwest corner of the Ephraim Carpenter 70 acres, Lot 11.

In Rome Township, Athens County, Dunham Brothers are drilling deeper their No. 1 on the E. Bryon farm, Section 32. Rice Oil and Gas Co., is drilling No. 6 located 1,650 feet from the north line and 200 from the west line of the W. B. Rice 131 acres, Section 23. The Oil & Gas Co. is drilling No. 6 on the southeast corner of the E. Cunningham 164 acres, ection 29, and the Ohio Fuel Supply Co. made a location for a test on the southeast corner of the P. D. Patton 18 acres, Section 32.

The Ohio Fuel Supply Co. is drilling No. 1 on the Emma Williams 26 acres, Section 24, Sutton Township, Meigs County.

### Ohio Pickups

The Klise-Eckstein-McCann Co. have three wells due for completion in the Central Ohio Field, in No. 3 on the Charles Barnes farm, Lot 5 Monroe Township, Holmes County, and No. 1 Saunders Martin farm, Lot 1, same township, and No. 1 N. Younker farm, Section 23, Cannan Township, Wayne County.

It is announced that development work under the supervision of the Central Ohio Gas Co., in the Central Ohio Field will hereafter go under the name of the Empire Gas & Fuel Co.

Announcement has been made that a dry hole was drilled by Mason B. Starring in No. 1 Phoebe Schweikert farm, in Fractional Section 713, of Barlow Township, Washington County. The drill went into the Big Injun sand at a total depth of 1,325 feet.

The Carter Oil Co. has a rig in for a test on the northeast corner of the W. Huggins 166 acres, in the southeast quarter of Section 15, Washington Township, Hocking County.

The Ohio Fuel Supply Co. is down close to 2,000 feet in a test on the Elmer I. Inler farm, Section 28, Perry Township, Hocking County.

The Ohio Fuel Gas Co., abandoned its location for a test on the Ora Ramsey farm, Section 31, Milton township, Jackson County.

Burtner-Morgan & Stephens made a location for No. 4 on the southeast corner of the Albert R. Mackey 98 acres, Lot 6, Monroe Township, Holmes County.

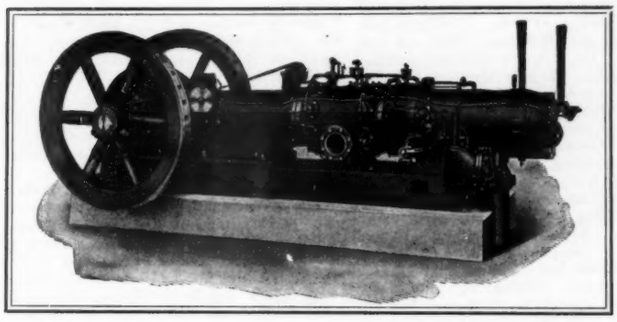
## SAYS SOUTHERN ALBERTA TO BE BIG OIL FIELD

Canada within the next few years will be producing oil at the rate of 100,000,000 bbls. a year or more, and will rank with the leading oil producing countries of the world, according to P. Chester Thompson, geologist and pioneer in developing oil fields in Colombia, Venezuela and on the Island of Madagascar, interviewed in New York. He said the Canadian production would come largely from Southern Alberta, "which eventually will prove one of the greatest oil fields ever known."

"Development of the petroleum resources of the Dominion of Canada," he said, "has been hindered until recently by prohibitive taxation. Royalties up to 90 per cent of all oil produced could be imposed. Such drastic legislation, in effect for years, has forced Canada to import practically all crude and refined petroleum products consumed. Its production of 170,000 bbls. in 1923 represented merely an insignificant part of its requirements."

## THE TEXAS CO. GETS CONTRACT

The Texas Co. has renewed contract with the Brooklyn-Manhattan Transit Corp. and the New York Rapid Transit Corp., the B.-M. T. subsidiary operating subways, to supply lubricating oils for all rolling stock. This is said to be the largest contract in the country for lubrication of electric transit rolling stock.



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GIANT OIL AND GAS ENGINES — ROCK DRILLS · · COAL DRILLS

CHICAGO PNEUMATIC

## NORTH CENTRAL TEXAS

(Continued from Page 56)

Jones, dry at 3,190 feet; Price and others' No. 4 Bruce, 20 bbls. at 2,105 feet; Tripplehorn Petroleum Co.'s No. 1 Adams, dry at 4,025 feet.

**Young County Completions**

Consolidated Oil Co.'s No. 1 Bearden, dry at 1,410 feet; Knight and others' No. 1 Colley, dry at 1,505 feet; same company's No. 1 Jeffrey, dry at 1,325 feet; same company's No. 1 Pringle, dry at 1,400 feet; Murchison and others' No. 1 Campbell, 30 bbls. at 1.045 feet.

**Eastland County Completions**

Magnolia Petroleum Co.'s No. 7 Barnes, 10 bbls. at 3,545 feet; same company's No. 4 Rogers, 40 bbls. at 2,905 feet; Parsons and others' No. 1 Scott, 12,000,000 feet of gas at 3,160 feet; Pittman and others' No. 1 Petit, 25 bbls. at 1,465 feet; Root and others' No. 1 Wheeler, dry at 3,365 feet.

**Wildcat Completions**

Wilbarger County: Petroleum Producers' Co.'s No. 2 Dill, 70 bbls. at 2,050 feet.

Baylor County: Nelson and others' No. 1 Sykora, dry at 1,675 feet.

Clay County: Evans and others' No. 1 Culver, dry at 1,815 feet.

Throckmorton County: Larkin and others' No. 1 Conger, 10 bbls. at 1,430 feet.

Callahan County: Pope and others' No. 4 Bryson, dry at 2,530 feet.

Brown County: Stone and others' No. 2 Gunn, 5 bbls. at 1,215 feet.

Reagan County: Texon Oil & Land Co.'s No. 2 Group 1 University, 3,035 bbls. at 2,985 feet.

**Wichita County Drilling**

Couch and others' No. 1 Smith, drilling at 1,000 feet; Magnolia Petroleum Co.'s ..o. 108 Reilly, drilling at 1,265 feet; same company's No. 109 Reilly, drilling at 250 feet; same company's No. 41 Beach, drilling at 860 feet; O'Neil and others' No. 1 Doneghy, drilling in shale at 1,750 feet; Ascot Co.'s No. 26 Roller, drilling at 1,800 feet; Stump Oil Co.'s No. 1 Chilson, drilling in rock at 600 feet; Bailey and others' No. 1 K & K, drilling in shale at 1,580 feet; Burnett Ranch Oil Co.'s No. 1-A Burnett, setting casing at 1,635 feet; Drillers Development Co.'s No. 6 Douglas, drilling at 760 feet; Empire Gas & Fuel Co.'s No. 6 Pierce, setting casing at 1,550 feet; Hawkins and others' No. 2 Watkins, drilling at 900 feet; Howell and others' No. 2 Burnett, drilling at 700 feet; Hughes and others' No. 1 Ferguson, fishing at 1,720 feet; Magnolia Petroleum Co.'s No. 11 Douglas, underreaming; same company's No. 66 Honaker, drilling in rock at 560 feet; same company's No. 8 McMan-Waggoner, underreaming; same company's No. 40 Rio Bravo, underreaming; same company's No. 41 Rio Bravo, underreaming; same company's No. 4 Pere Waggoner, drilling at 1,185 feet; same company's No. 8-A Waggoner, drilling in shale at 1,630 feet; same company's No. 4-B Waggoner, drilling at 1,490 feet; O'Neil and others' No. 1 Woodward, drilling in shale at 1,560 feet; Perkins and others' No. 12 Burnett, drilling at 750 feet; Petroleum Production Co.'s No. 2 Allen & Kemp, drilling in rock at 500 feet; Section Two Oil Co.'s No. 6 Burnett, drilling at 975 feet; Staley and others' No. 6 Ramming, drilling in rock at 650 feet; Trimutual Oil Co.'s No. 7 Ward & Todd, coring a sand at 1,630 feet.

**Archer County Drilling**

Archer Oil Co.'s No. 1 Dowlen, drilling in rock at 600 feet; Camp Oil & Gas Co.'s No. 1 Hughes, drilling at 210 feet; Carter and others' No. 3-A White, drilling at 1,370 feet; Comet Petroleum Co.'s No. 3 White, drilling at 1,000 feet; Electra Gulf Oil Co.'s No. 1 Andrews, underreaming; Franklin and others' No. 2-B Parrish, underreaming; Gohlke and others' No. 1 Wilson, setting casing at 1,600 feet; Haskell and others' No. 1 Holdrom, drilling in rock at 660 feet; Jetter and others' No. 2 White, drilling at 1,660 feet; Lincoln and others' No. 3 Oil Investment Co., underreaming; same company's No. 1 Langford, drilling at 1,300 feet; Magnolia Petroleum Co.'s No. 10 Parrish, drilling at 100 feet; Mahlstedt-Mock Oil Co.'s No. 1 Hutchinson, drilling at 1,405 feet; Page and others' No. 1 Nichols, drilling in rock at 510 feet; Phillips and others' No. 4 Wilson has oil showing at 1,515 feet; Robertson and others' No. 6 White, drilling in shale at 1,590 feet; same company's No 15 White has oil showing at 1,605 feet; same company's No. 16 White has oil showing at 1,605 feet; Texhoma Oil & Refining Co.'s No. 1 Wilson, drilling at 1,075 feet; Christie Brothers' No. 1 Campbell, spudding; Cline and others' No. 2 Cowan, drilling in rock at 600 feet; Coffey and others' No. 1 Morrison, spudding; Consolidated Oil Co.'s No. 6 Bearden, drilling at 1,060 feet; same company's No. 6-A Davis, drilling at 1,000 feet; same company's No. 7-A Davis, drilling at 300 feet; same company's No. 2-B Davis, drilling at 300 feet; same company's No. 4-C Ragle, drilling at 680 feet; Cullum and others' No. 5 Bridwell, drilling at 980 feet; Fisher and others' No. 1 Rogers has oil showing at 1,375 feet; Gwynn and others' No. 1 Rogers, drilling at 1,220 feet; same company's No. 3 Rogers, drilling at 1,140 feet; Humble Oil & Refining Co.'s No. 3 Ragle, drilling at 920 feet; Murchison and others' No. 8 Griffin, drilling at 300 feet; same company's No. 4 Wood, drilling in rock at 500 feet; Nicholson and others' No. 1 Prideaux, drilling at 700 feet; Petroleum Production Co.'s No. 3 Bridwell, drilling in rock at 650 feet; same company's No. 4 Bridwell, drilling at 760 feet; Ray and others' No. 8 Hausler, drilling at 900 feet; Shamrock Oil Co.'s No. 17 Goldsmith, setting casing at 1,325 feet; Shaw and others' No. 1 Hayter, drilling at 1,160 feet; Southern Exploration Co.'s No. 1 Kinder, drilling in shale at 1,140 feet; Sun Oil Co.'s No. 4 Green, drilling at 360 feet; Staley and others' No. 1 Kelly, drilling at 1,015 feet; The Texas Co.'s No. 3 Jeske, drilling at 690 feet; Wollett and others' No. 2 Griffin, drilling at 300 feet; Young and others' No. 1 Campbell, fishing at 1,240 feet; Bridwell and others' No. 1 Giddings, drilling at 1,135 feet; Burns and others' No. 1 Kunkle, drilling at 1,170 feet; Carey and others' No. 2 Logan, drilling in rock at 600 feet; Clopton and others' No. 1 Harris, drilling in shale at 1,365 feet; Green and others' No. 3 Abercrombie & Taylor has oil showing at 1,395 feet; Hobbs Brothers' No. 1 Lane, has oil showing at 1,450 feet; Maxwell and others' No. 1 Harlson, drilling at 540 feet; McNamara Brothers' No. 1 Justice, underreaming; Richardson Brothers' No. 1 Boone, drilling at 1,125 feet; Sims Oil Co.'s No. 1 Key, drilling at 280 feet; Sun Oil Co.'s No. 6 Farmer, drilling in shale at 1,365 feet.

Young County Drilling sh ..

Burton and others' No. 1 Campbell, drilling at 1,050 feet; Burns and others' No. 1 Tucker, drilling at 310 feet; Carey Drilling Co.'s No. 1 Roach, drilling at 300 feet; Cheney and others' No. 1 Harrison, underreaming; Christie Brothers' No. 3 McLaren, drilling at 2,320 feet; Dunn and others' No. 1 Craig, fishing at 500 feet; Harris and others' No. 1 Andrews, drilling at 1,175 feet; Heatherly and others' No. 1 Heatherly, drilling at 720 feet; Jones and others' No. 1 Marshall, drilling at 450 feet; Keener Oil & Gas Co.'s No. 1 Marshall, drilling in shale at 2,811 feet; Kentucky Oil Co.'s No. 1 Kilcrease, drilling at 810 feet; Knight and others' No. 1 Logan, drilling at 1,345 feet; Litchfield and others' No. 2 Campbell, drilling at 810 feet; Mooers and others' No. 1 Eckert, drilling at 650 feet; Miller and others' No. 1 Hume, drilling in lime at 3,970 feet; O'Neall and others' No. 1 Loran, drilling at 550 feet; Pois and others' No. 1 Dietrich, drilling at 670 feet; Reed and others' No. 1 Clark, drilling at 100 feet; Staley and others' No. 1 Thomas, drilling at 930 feet; Vance and others' No. 1 Daws, drilling in Lme at 3,025 feet; Verschoyle and others' No. 1 Wainscott, drilling at 915 feet.

**Stephens County Drilling**

Critten and others' No. 8 Cobb, setting casing at 1,690 feet; Interstate Consolidated Oil Co.'s No. 1 Lane, drilling at 750 feet; Mid-Kansas Oil & Gas Co.'s No. 15 J. W. Hill, drilling at 420 feet; same company's No. 3 Hill, account 2, drilling at 2,300 feet; same company's No. 5 Lowe, account 3, drilling at 1,165 feet; same company's No. 11 Tullos, account 2, drilling in lime at 3,380 feet; same company's No. 2 Williams, account 2, has oil and gas showing at 3,275 feet; Pender Production Co.'s No. 3 Keel, drilling at 2,510 feet; Pierce and others' No. 1 Crudington, cleaning out at 3,620 feet; Prairie Oil & Gas Co.'s No. 15 Atkins, fishing at 3,195 feet; same company's No. 2 Caldwell, cleaning out at 3,240 feet; Snowden & McSweeney's No. 8 Ackers, cleaning out at 3,040 feet; same company's No. 5 Higginbotham, fishing at 3,175 feet; Texas Consolidated Oil Co.'s No. 2 Martin, cleaning out at 3,880 feet; Buckeye Development Co.'s No. 8 Walker, drilling at 2,565 feet; Carter and others' No. 1 Jennings, drilling in lime at 3,735 feet; same company'ss No. 1 Texas & Pacific Railway Co., drilling in lime at 3,815 feet; Clark and otherss' No. 1 Post, drilling at 1,590 feet; Knox and others' No. 1 Flournoy, fishing at 3,840 feet; Landreth Production Co.'s No. 1 Ward drilling at 1,370 feet; Lewis Oil Co.'s No. 1 Brown, drilling at 3,000 feet; Magnolia Petroleum Co.'s No. 9 C. B. Brown, fishing at 3,810 feet; same company's No. 7 J. W. Brown, fishing at 3,190 feet; same company's No. 8 J. W. Brown, drilling at 2,975 feet.. same company's No. 5 McCauley, drilling in lime at 3,475 feet; Schimmel and others 'No. 1 Watson, drilling at 2,700 feet; Scott and others' No. 1 Curry, drilling at 800 feet; Sun Oil Co.'s No. 6 Stoker, fishing at 3,130 feet; The Texas Co.'s No. 10 Curry, drilling in lime at 3,305 feet; Texas Pacific Coal & Oil Co.'s No. 1 Veale, drilling in lime at 3,435 feet.

**Eastland County Drilling**

Dorothy Oil Co.'s No. 1 Elliott, drilling at 2,350 feet; Eby and others' No. 6 Miller, spudding; Gallagher and others' No. 1 Goodwin, drilling at 650 feet; Reclamation Oil Co.'s No. 6 Bond, fishing at 2,195 feet; States Oil Co.'s No. 3 Davenport, spudding; same company's No. 14 Harrell, spudding; Burkett and others' No. 1 Stanton, drilling at 500 feet; Eastland Oil Co.'s No. 1 Jordan, drilling at 2,000 feet; Knox-Lewis Oil Co.'s No. 1 White, drilling at 2,600 feet; Lorenzen and others' No. 1 Qualls, drilling at 1,560 feet; McMeans and others' No. 1 Storm, underreaming! Rosenfield and others' No. 1 Brunett, cleaning out at 3,205 feet; Weaver Oil Co.'s No. 1 Dulin, drilling at 1,400 feet.

**Wildcats Drilling**

Hutchinson County—Dixon Creek Oil Co.'s No. 1 Smith, drilling in lime at 2,450 feet; Prairie Oil & Gas Co.'s No. 1 Shaw has gas showing at 2,500 fert; Twin Six Oil Co.'s No. 1 Kingsland has gas showing at 2,950 feet; Tex-O-Oil Co.'s No. 1 Johnson, has show of gas at 1,165 feet.

Carson County—American Refining Co.'s No. 3 Burnett has show of gas at 2,400 feet; Crosby Oil Co.'s No. 1 Burnett, drilling in lime at 2,480 feet; Gates Oil Co.'s No. 1 Burnett, setting casing at 2,985 feet; Premier Oil Corp.'s (formerly Greenwood and others') No. 1 Burnett, drilling at 1,650 feet; Marland Oil Co.'s No. 1 Burnett, drilling in lime at 2,500 feet; Silk and others' No. 3-A Burnett, drilling at 2,760 feet; Skelly Oil Co.s No. 2 Burnett, drilling in lime at 2,880 feet.

Gray County—Anderson and others' No. 1 Bradford, drilling at 650 feet; Clark and others' Combs and others' drilling at 2,375 feet; Dillard and others' No. 1 Henry, drilling in lime at 3,010 feet; Holmes and others' No. 2 Monroe, has gas showing at 2,390 feet.

**Wilbarger County**

Barkley and others' No. 1 Stephens, coring a sand at 1,745 feet; Bridwell and others' No. 2 Dill, spudding; same company's No. 3 Stephens, drilling sandy lime at 2,130 feet; same company's No. 1 Waggoner, fishing at 880 feet; Burton and others' No. 1 Waggoner, spudding; Dill Farm Oil Co.'s No. 1 Dill, underreaming; Electra Gulf Oil Co.'s No. 1 Bond, drilling at 1,200 feet; Hamilton and others' No. 1 Kester, drilling at 1,535 feet; Humble Oil & Refining Co.'s No. 1 Castlebury, underreaming; same company's No. 1 Waggoner, spudding; Kolp and others' No. 1 Waggoner, drilling at 300 feet; Levy and others' No. 1

(Continued on Page 80)

# News of Mexican Fields

By George Blardone

TAMPICO, Mex., Dec. 20.—The best completion of the past week in Mexican fields is Mexican Petroleum Co.'s No. 5 Chapacao, in the Ebano district of the northern fields, which is rated good for 15,000 bbls. at 2,240 feet. Its No. 3, same, was a duster at 2,500 feet.

The total number of completions during the week just passed was a round dozen, of which seven are in the production column and five were failures. All of them, with one exception, were finished in the northern fields. The finished producers follow: Transcontinental Petroleum Co.'s No. 139, Lot 4 Cacalilao, is rated a stripper of 1,000 bbls. free oil at 1,924 feet, the test showing some 5,000 bbls. of fluid. Its No. 127, Lot 5, same, is good for 300 bbls. by heads at 2,215 feet. Another 1,000-bbl. well is Mexican Gulf Oil Co.'s No. 23 El Barco, which was finished at the rather shallow depth of 2,125 feet, the sector considered. In the Marland Field, Cia. Petrolera Franco Espanola's No. 15 Limon is rated at 250 bbls. at 2,552 feet. In the Tamante sector of the Panuco Field, Credito Petrolera's No. 1, Lot 11, can do about 50 bbls. at 2,176 feet; and in the Topila district, Mexican Fuel Co.'s No. 15 Santa Fe is rated 30 bbls. at 2,504 feet. Total new flush production for the week, 17,630 bbls.

International Petroleum Co. had two failures in Lot 8 Nacata, finishing them both at 2,500 feet. East Coast Oil Co. drilled into salt water with its No. 509, Lot 29 Tamboyoche, Topila Field, at 2,575 feet.

In the southern fields, Island Oil & Transport Corp.'s No. 4, Lot 96 Chinampa, is a salt water well at an approximate sub-sea level of 1,891 feet.

Indications are that drilling operations by the Huasteca Petroleum Co. (Mexican Petroleum) in the south fields will materially increase that company's production there in the next 30 days. Of more than passing interest is its No. 50 Cerro Azul, located a little more than one kilometer southeast from its famous No. 4 of that name. This No. 50 has just cemented 10-inch at 1,240 feet, the top of the Tamasopa lime. This means encountering the Tamasopa at a sub-sea level of 818 feet, which marks it the shallowest Tamasopa yet encountered in this very shallow Cerro Azul pool. Further, No. 50 is evidently located at or very near the apex of the fold, and by the same conclusion No. 4 Cerro Azul is on the western slope of the fold. Some oil and gas was encountered at the bottom of the San Felipe in this test. South, a little west of No. 50 is No. 49 Cerro Azul which cemented 8-inch at 1,700 feet, the top of the Tamasopa, and it, too, is gassing. North, a little east, of this same No. 50 is No. 51, which cemented 10-inch in a brown shale at 1,632 feet. This latter location is almost due east of No. 4. In sum, here are three tests that should prove producers, and if shallow Tamasopa means what it should mean No. 50, at least, has license to make some history.

Huasteca's other drilling operations follow: No. 53 Cerro Azul is drilling in gray shale at 850 feet. In Tierra Blanca, No. 28 should be finished any day now as the drill is in gray and brown lime at 2,208 feet. In Chapopote Nunez, its No. 9 is drilling in gray shale at 1,700 feet. Up in Tres Hermanos, Huasteca's No. 7 is drilling in gumbo at 210 feet.

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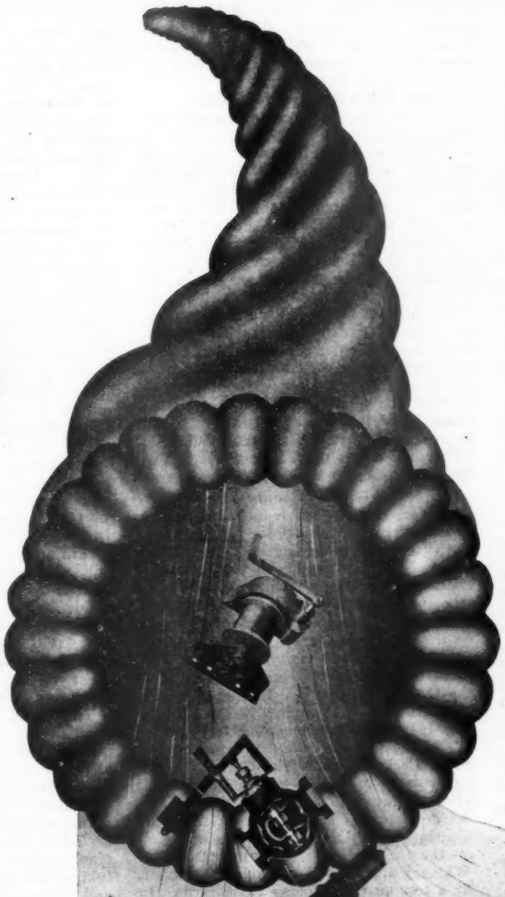
1925

# A Wish



May the coming year bring to you its full measure of health, happiness and prosperity.

May it contain the realization of your fondest dreams.

And may we play our part in contributing to the general era of prosperity, of which 1925 is the Golden Promise.

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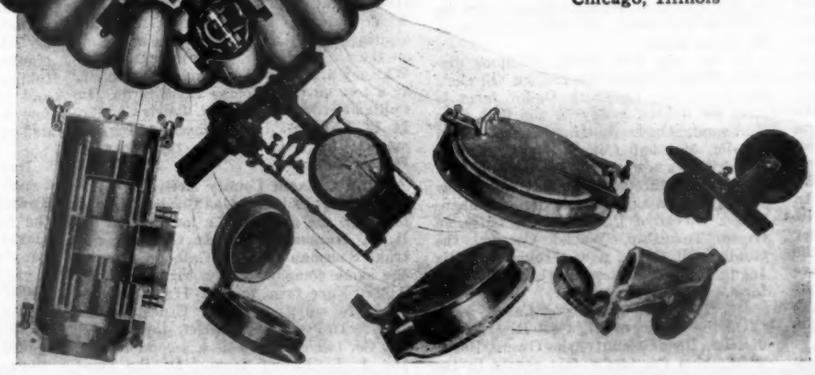


# Pennsylvania-West Virginia

By D. S. Wakenight

**Sun Oil Co. gets 30-bbl. well and Pure Oil Co. 25 bbls. in York Township, Morgan County, Ohio. Licking County completing more wells than any county in southeastern Ohio. Hall & Co. have 10-bbl. completion in McKim district, Pleasants County, West Virginia.**

PITTSBURGH, Pa., Dec. 22.—Without completing any large wells or the discovery of anything out of the ordinary, development work in the eastern fields proved of little interest.

The best wells were located in the Berea grit development in southeastern Ohio. One is the Sun Oil Co.'s No. 7 on the G. E. Swytser farm, in Section 26, York Township, Morgan County. It is good for 30 bbls. a day. The other is the Pure Oil Co.'s No. 9 on the Ira N. Baringer farm, in the same county and township in Section 32, and good for 25 bbls. a day in the Berea grit. In Section 7, Brush Creek Township, Muskingum County, the Swingle Oil & Gas Co. completed and shot in the Berea grit a test on the Robert Soules farm. It is a light gasser.

In the northwest quarter of Section 23, Reading Township, Perry County, Reagan and others completed a test on the St. Joseph Literary Society's property, securing a gasser in the Berea grit good for 400,000 feet. This test was started with a view to going to the Clinton sand but was stopped when gas was struck in the Berea grit. They will skid the rig 100 feet west and start another well with the Clinton sand as the objective. The location of the first test is 2,500 feet south of the Carter Oil Co.'s test on the J. L. Daugherty farm.

### Licking County Completions

Licking County is completing more wells than any other in southeastern Ohio. In Newton Township, O. F. Rugg & Co. have a 4-bbl. pumper in the Berea grit at No. 3 on the Rugg farm. In the same township, Jones & Reese have completed and shot No. 7 on the James McKinney farm. It is not good for more than 2 bbls. a day. In Lot 22, Licking Township, Ralph Brothers, Inc., have a 3-bbl. pumper at No. 5 on the Gideon E. Smith farm. In Lot 2, same township, W. W. & A. T. Wehrle have a light pumper at No. 3 on the Smith Brothers' farm. In Lot 6 same township, the Carter Oil Co. has started to drill on the G. E. Tish farm, 700 feet east of the Pure Oil Co.'s Trenton Rock producer on the Ilena Smith farm. The Carter Oil Co. will drill its test on the Tish farm to the Trenton Rock. This and the second test on the W. W. & A. T. Wehrle farm are the only wells in that locality now drilling to the Trenton Rock. In Section 2, Moore & Adams completed No. 6 on the T. L. Stevens farm. It is very light in the Berea grit. In Lot 13, the Detex Oil & Gas Co. and others have started to drill a test on the Otto Franks farm. The Midland Oil Co. is drilling a second test on the S. S. Cooperrider farm.

### Guernsey County

Some of the larger operating companies have for some time been testing for oil or gas in the Niagara lime in Guernsey County. In Adams Township, the Ohio Oil Co. drilled a test on the James Mercer farm 140 feet into the lime. It is a gasser good for 185,000 feet. In Knox Township, the Ohio Fuel Corp. has drilled a test on the J. H. Mackley farm 160 feet into the same formation and showing a little oil. It will be given a shot and tested. In Adams Township, the same company's test on the William Worthing farm is a duster in all sands.

Hackett & Metcalf have a light pumper in the Buell Run sand at No. 4 on the Robert Love farm in Section 2, Jefferson Township, Noble County. Located one-half mile southeast of the Carter Oil Co.'s test on the C. Binegar farm in Lawrence Township, Washington County, in Section 6, the Braden Oil Co. and Dupey Brothers have a good gasser in the Berea grit at a test on the James Martin farm. In Section 21, same township, Frank Rice & Co. completed in the second Cow Run sand No. 4 on the George G. Dugan farm. It is a very light pumper. In Section 5, Washington Township, Monroe County, the Carter Oil Co.'s test on the J. F. English farm is a very light pumper in the Berea grit.

### Starting Tests

There is a little test work starting in several counties. In Section 17, Knox Township, Guernsey County, the Ohio Fuel Corp. has a rig up for a Niagara Lime test on the Luella Estep 80 acres. The same company has made a location on the Mary E. Clark 165 acres in Section 4, Adams Township. In Section 25, Bethel Township, Monroe County, Stoffel & Co. are drilling a second test on the R. G. Connor farm.

### West Virginia Light Wells

The showing made by the West Virginia fields was disparaging. Light pumpers and gassers were the rule. In McKim district, Pleasants County, Hall & Co. got a better producer than indicated when they drilled their test on the H. Pryor farm into the Maxom sand and showed for a very light pumper. It was given a shot and is now good for 10 bbls. a day. In Grant district, the Faith Oil & Gas Co.'s second test on the Hammett heirs' farm is good for 6 bbls. a day in the first Cow Run sand. In the same district, Seckman & Stattler have a duster in the first Cow Run sand at a test on the Roy Seckman farm. In Lafayette district, the Bottom Oil Co.'s second test on the Thornton Wagner farm is dry in the Cow Run sand. It will be drilled to the lower sands.

In the Big Run Field, Williams district, Wood County, the Hoglan Oil Co.'s No. 8 on the Elizabeth Ogdin farm is good for 5 bbls. a day in the first Cow Run sand. On Little Grave Creek, Union district, Marshall County, Cole & Campbell drilled a test on the Luella May McClure farm through and 300 feet below the Big Injun sand. It is dry and abandoned. West of Pine Grove 8 miles, in Green Township, Wetzel County, the Gordon Oil Co. is now through the Big Ingun sand at its test on the B. Morgan farm. It is a duster.

### Gassers in Boone and Cabell

On the waters of Big Coal River, Scott district, Boone County, the Owens Bottle & Machine Co. has a fair gasser in the Big lime at No. 8 on the Pryor-Allen farm. On the same river and in the same district, the same company has a dry hole in the Berea grit at a test on the J. D. Perry farm. On Big Two-Mile Creek, Grant district, Cabell County, the H. C. Zogg Oil & Gas Co. completed and shot in the Berea grit a test on the J. H. Harshbarger farm. It is a gasser good for 200,000 feet.

In Clay district, Wirt County, W. E. Patterson's No. 18 on the M. A. Donoho farm is a very light pumper in the gas sand. In Burning Springs district, at the head waters of Two-Mile Run, the Endeavor Oil Co. completed and shot in the second Row Run sand No. 13 on the W. H. H. Wheaton farm. It is a small pumper. In Church district, Wetzel County, the Maple Pitt Fuel Co. has a gasser in the Maxon sand at a test on the Thomas R. Shock farm.

### Dry Holes in Harrison County

In Grant district, Harrison County, the West Virginia Central Gas Co.'s No. 3 on the Alex A. Smith farm is through the fifth sand and dry. In Ten-Mile district, D. C. Louchery & Co. have a duster in the same formation at a second test on the J. B. Conaway farm. Both have been abandoned. In Union district, the Hope Natural Gas Co. is abandoning its second test on the A. B. Coffindaffer farm. J. W. Gibbs has drilled his test on the I. D. Freeman farm in Ripley district, Jackson County, through the Gordon sand and dry. This was regarded as a wildcat of some importance. In Spencer district, Roane County, the Carter Oil Co.'s test on the Craig heirs' farm is a gasser in the Big Injun sand. In Washington district, Calhoun County, G. L. Cabot has a duster at his test on the W. F. Thorne farm.

### Gilmer County

Gilmer County has considerable new work starting. In Center district, the Valley Oil Co. is rigging up at a test on the J. B. James farm. In the same district, Britton Brothers have a rig up on the Baptist Church lot. The Hope Natural Gas Co. has started to drill a test on the Margaret Barker farm. In Otter district, Braxton County, the West Virginia Central Gas Co. started to drill on the C. F. Engle farm. In the same district, the same company is due in the Big Injun sand at a second test on the W. K. Bender farm and drilling on the S. B. Beckett farm. The Carter Oil Co. has started to drill a test on the W. H. Hufford farm, in Central district, Doddridge County. In the same district, the Continental Oil & Gas Co. has a rig up on the C. P. Henderson farm. Taylor & Whitney are delayed, repairing the boiler, at a test on the Thomas Doak farm. In Collins Settlement district, Lewis County, L. F. & R. R. Horner are hauling rig material to a location on the Mary Z. Horner farm.

### Calhoun County Active

The Hope Natural Gas Co. has rig material on the ground at a location on the R. M. Marshall farm. In the same district, Sherman district, Calhoun County, the same company has a rig up on the Albert Furr farm and A. H. Jackson is ready to start on the J. Ernest Snider farm. In Sheridan district, the Richter Oil Co. is rigging up at a second test on the J. L. Elliott farm. In the same district, Hays & Co. are rebuilding the rig at its location on the E. F. Raybuck farm. The first rig caught fire from the forge and it was consumed. In Sherman district, the Euclid Oil Co. is drilling at 1,600 feet at a second test on the Creed Yoak farm. In Lincoln district, Marion County, the Hope Natural Gas Co. is rigging up on the Alvira Robey farm. In Mannington district, the Buffalo Oil Co. is rigging up on the Beaty heirs farm. In Ten-Mile district, Harrison County, the Wolf Pen Oil Co. has started to drill on the Roda Lyons farm. In the same district, the Clarksburg Light & Heat Co. is due in the sand on the Mary Braamer farm. In Sardis district, the same company has started to drill on the Chieftain Coal Co.'s property. In Grant district, the Vesper Oil & Gas Co. is drilling on the W. B. Lee farm.

### Harrison County

In Ten-Mile district, Harrison County, the Delva-Tex Oil Co. is building a rig on the Nora B. Lanhan farm. In Sardis district, the Lone Star Gas Co. is rigging up on the A. C. Cookman farm. The Bates Oil & Gas Co. has started to drill on the William Bates farm, in McClelland district, Doddridge County. In Union district, Tyler County, Lawson & Co. have started to drill on the Z. M. Stewart farm and Albert Neely is drilling on the J. B. Stewart farm. In Geary district, Roane County, the Cromwell Oil & Gas Co. is due in the Big Injun sand at a test on the O. F. Taylor farm. The Heck Oil Co. is due in the Big Injun sand at a test on the A. M. Thorne farm, Reedy district, Wirt County. In Church district, Wetzel County, W. Null & Co. have made a location on the Thomas Phillips farm. The Carter Oil Co. has the rig completed on the N. E. Talbott farm, in Troy district, Gilmer County. On Talkington Fork, West Union district, Doddridge County, the Hope Natural Gas Co. is drilling on the S. H. Robinson farm.

### Lincoln County Tests

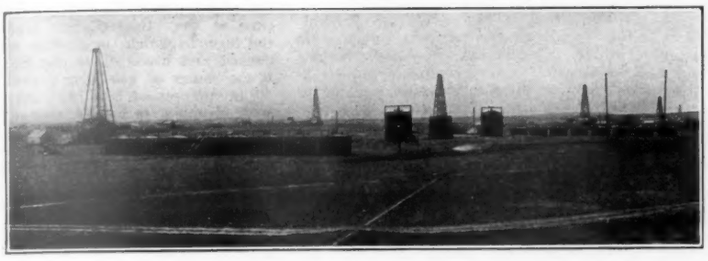
Searchers for gas are still quite active in Lincoln County. In Carroll district, the Commercial Gas Co. has started to drill on the Lena Ray farm. In Laurel Hill district, the Columbia Gas & Electric Co. is drilling a deep test on the J. C. Cline farm. It has now reached a depth of 3,850 feet and found nothing. In Union district, Roy & McComas are through the Berea grit on the Benjamin Adkins farm and waiting for a shot. In Duval district, the Carter Oil Co. has started to drill on the Henry Stowers farm. Harshbman & Stanton are rigging up on the S. M. Pike heirs' farm, in Curry district, Putnam County. In Sardis district, Harrison County, J. W. Johnson & Son have started to drill on the Calder Bailey farm. The Hope Natural Gas Co. is drilling on the C. L. Girffin farm. In Elk district, the Grasselli Chemical Co. is drilling on the Charles Blair farm. The same company is due in the Big Injun sand on the Guy & Minter Lawson farm. In Union district, the Fisher Oil Co. is drilling at 2,593 feet on the L. L. Perine farm. The West Virginia Central Gas Co. is down 2,200 feet on the Alex A. Smith farm.

The most important incident of the week in the Pennsylvania fields was the recovery of the tools stuck in the Peoples Natural Gas Co.'s second deep test on the Booth & Flinn property on Chestnut Ridge, Westmoreland County. Notwithstanding they had to fish at a depth of 7,428 feet they did not have much trouble, after cutting the wire cable, in taking hold of the tools, lifting them out and clearing the hole. Within the next few days they will drill it a little deeper and expect the flow of gas to increase.

### Gassers in Greene County

During the week some fair gassers were completed in Greene County. In Perry Township, the Philadelphia Co. got one in the Bayard sand at a second test on the David Ammons farm. The same company's test on the J. G. Fordyce farm is a gasser in the Big Injun sand. Martin & Co.'s test on the Josephine Fox farm is a gasser in the Big Injun sand. The Home Gas Co.'s No. 3 on the Justice South farm is a gasser in the same formation. In Washington Township, the Carnegie Natural Gas Co. has a Bayard sand gasser on the B. Loughman farm. The Dunbar Oil & Gas Co.'s No. 5 on the P. D. Hoskinson farm has filled up 400 feet with fluid, in Springhill Township. In the same township, Spencer Stockdale & Co. have a duster in the Gordon sand at No. 3 on the William Stockdale farm. In the same district, the New Freeport Oil & Gas Co. got a gasser in the Big Injun sand at a test on the Gump heirs' farm. James Null & Co.'s test on the J. F. Sellers farm is a gasser in the fifth sand.

# PERFECTION VAPOR PRESSURE TANKS
WOOD, AND BOLTED STEEL TANKS



*You will find Perfection batteries in every active field in the country.*

## Eloquent Testimonial to Perfection Fitness

We are glad to have been largely instrumental in the fight that is being waged on evaporation and its attendant evils. Less than three years ago, oil producers looked upon the ravages of evaporation as a necessary evil that could not be avoided.

Today there is not a single tank manufacturing company of consequence in the country that is not featuring some sort of a device to eliminate those losses. In addition there are many other concerns manufacturing "valves" that can be placed on any tank.

These facts constitute a most eloquent testimonial to the Perfection Vapor Pressure Tank, the pioneer in the field.

We have only one admonition: it should be remembered that the Perfection was the first in the field; that it has been on the market long enough to have all the "kinks" removed. Furthermore, hundreds of users in the fields of the country today are willing to testify as to its fitness.

They will tell you that the Perfection stops all gaugeable evaporation losses and holds up the gravity, thus insuring the best possible price. Braced stronger than the average tank with struts and angle irons, made of extra heavy bolted steel sections, it will last a life time and can be moved from lease to lease. The special relief valve to take care of both pressure and vacuum is an integral part of the tank and is guaranteed foolproof.

You had better stop those losses that are eating up your profits at once. Get in touch with our nearest branch representative.

*Perfection Tanks will not cost you a nickle in the long run*

## Black Sivalls & Bryson
INC.

BARTLESVILLE ~ OKLAHOMA

*Branch offices in all principal active fields*

# EQUIPMENT AND SUPPLIES

## DEEP WELL PUMPING IMPROVEMENTS SUGGESTED BY CALIFORNIA STUDY

By John A. Zublin
*General Petroleum Co.*
*Before American Petroleum Institute Fort Worth, Tex.*

The California operators have continued to use in deep wells the ordinary type of plunger pump with more or less success.

When the deep wells in several oil fields of the Los Angeles Basin, particularly at Santa Fe Springs, ceased flowing and were put on the pump, it was found the ordinary pumping installations were not sufficient to lift the oil, the wells in many cases refusing to yield any oil whatsoever. It then became an urgent necessity to take immediate steps to find a solution for this baffling problem.

Prior to this time the writer had started to make some investigations on pumping equipment with special attention to plungers and working barrels. For a period of over two years and until the end of 1923 these experiments and tests were carried on in both the Los Angeles Basin and the Midway fields, largely in wells of the General Petroleum Corp.

The conclusions resulting might be expressed as follows:

There are three possible methods of producing oil from a nonflowing well.

First.—By mechanical means, the pumping machinery in the derrick, the power transmitted by mechanical connections, rods, cable, etc., to the pump submerged in the fluid.

Second.—By means of compressed air or gas reestablishing the flowing conditions of a well, raising the fluid to the surface by means of aerated columns moved by the velocity of compressed and outflowing gases or air.

Third.—By other means, such as hydraulic and electric power transmission.

Method No. 3 may be discarded immediately as there are not proven constructions known which would adapt themselves for the purpose.

Method No. 2 may be discarded temporarily as it has not a general adaption to pumping wells, nor has it any immediate possibility of a practical and efficient solution.

**Result of Analysis**

The remaining method (No. 1) was therefore analyzed in detail and investigations made according to the following diagram:

On the surface—

Power plant—No improvements proposed.

Power transmission, countershaft, band wheel, crank, walking beam—no improvements proposed.

Number revolutions—increased if desired.

Length of stroke—increase if desired.

Connections between beam and rods—Adaption of rectilinear motion.

Counter balance—carefully balanced.

In the Hole—

Sucker rods—No improvements proposed.

Tubing—No improvement proposed.

Barrel—No improvements proposed.

Plunger—Less leakage, more resistance against sand and impurities, longer life, better drop, full length of stroke, better valve arrangements against gas action.

Standing valve—No improvements proposed.

Gas anchor—Standardization of openings.

The customary types are individual power plants driven by electricity, gas or steam or central power stations with pumping jacks. All types have their well founded merits, giving good service, not requiring any immediate change or improvements.

At first sight it seems to be unreasonable to move with an individual power plant and two belt drives, a countershaft, a band wheel, a crank, a pitman and a walking beam for the purpose of causing a reciprocating motion of the sucker rods. Considering, however, the necessary additional work which must be done so often in deep wells, such as pulling tubing, cleaning out the hole, fishing for rods and tubing (most of them rush jobs), it is very difficult to construct any more simple and practical equipment for such an all around service. Many devices have been constructed which will act directly upon the sucker rods without moving "all the heavy timber" and which naturally will show a slightly better efficiency. But most of these devices must be discarded when the additional work is performed so that such special direct acting pumping machinery will never fully replace the approved and reliable walking beam.

It is true the motion of the walking beam imparted to the sucker rod is not ideal. The elasticity of long strings of rods in deep holes combined with the abrupt reversing motion from down stroke to up stroke of the walking beam endangers the rods; but several devices, mostly connected with crank and pitman effectively overcome this defect. A simple and practical apparatus which will reverse from the down stroke to the up stroke gradually and without violence is very desirable, and might do good work in many fields.

A correctly counterbalanced beam with a sufficiently large fly wheel on the power plant speeded up to its highest practical speed often does wonders, and it is advisable to try such a simple remedy before considering radical changes in the machinery.

**Revolutions and Length of Stroke**

The easiest way to increase production with a given installation is apparently to increase the number of revolutions and length of stroke. However, an increase of two or three strokes per minute or an increase of 6 or 12 inches per stroke often causes more trouble and more interruption in work than the gain in production warrants. Elimination of this trouble depends on the correct action of the plunger in the working barrel, and it is only detrimental to good production to speed up the walking beam when the

(Continued on Page 102)

## NEW SAFETY COLLAR SUBJECTED TO TESTS

Exhaustive tests made with the new Link-Belt safety collar have proved it to be impervious to shocks and strains encountered in heavy duty service, according to the makers. The material of which it is made possesses unusual wear and rust resisting qualities. This extends its sphere of usefulness to installations where the atmospheric conditions contribute to rust or excessive abrasiveness. The set screw, by which the collar is firmly affixed to the shaft, is flange protected.

A new design permits the collar to be split in two pieces, thus affording ready and economical installation or adjustment. This type of collar, however, is made also in the solid ring type.

As with the recently perfected "Kex-Top" grease cup, the Link-Belt Malleable iron safety collar will be marketed through dealers located throughout the country, assuring prompt service and shipment.

The St. Louis branch office of the Link-Belt Co. has recently moved from the old quarters at 705 Olive St. to larger and more conveniently located offices at 3638 Olive St.

### NEW PUMPING CATALOG

The Bradford Motor Works, of Bradford, Pa., has recently put out a new catalog of pumping supplies for oil wells, which is very completely illustrated, showing all parts to pumps made by that concern. Attention is especially called to the "Tex" plunger working barrel, which, it is said, is radically different in design from any other pumping device, and gives much longer service.

### MOVE CLEVELAND OFFICES

The Cleveland, Ohio, office of the Sullivan Machinery Co. has been removed to Room 701 Rockefeller Bldg. The old address was Room 824 in the same building. Ralph T. Stone is district manager.

### TANK CAR REPAIR SHOP

Bids for construction of a tank car repair shop and foundry and forge works to be located in Tulsa have been asked by the Skelly Oil Co.

## ADD GAS GENERATOR TO EQUIPMENT LIST

The Frick-Reid Supply Co. has added "Carbic" welding outfits to the company's list of oil well equipment. A novel feature of the "Carbic" gas generator is the form in which the calcium carbide is packed and used. This material, which is the source of gas in any welding outfit, is compressed into hard cakes which are convenient to handle, and guaranteed not to deteriorate even when exposed to damp air. Each cake will furnish a definitely known amount of gas when used in the generator. It is stated that by using the carbide in cake form, the generation of gas can be stopped at any moment, thereby eliminating the possibility of waste.

### NEW COMBUSTION PRINCIPLE

The Improved Gravity Oil Burner Co. has been incorporated and will manufacture oil burners of the gravity type at a small plant at Riverside, a suburb of Chicago. The company officials claim a new principle of combustion. The officers are Richard Todd, president; Frank S. Egloff, vice president; Richard Todd, treasurer, and I. Egloff, secretary.

## STEEL PRODUCTION AND SHIPMENTS SHOW BIG INCREASE; DEMAND GOOD

By B. E. V. Luty

**PITTSBURGH, Pa., Dec. 22.—The Pure Oil Co. has ordered from a Pittsburgh maker 60 miles of 8-inch line pipe for a pipe line in Texas. The Marland Oil Co. is in the market for 75 miles of 8-inch pipe for a line in Texas.**

PITTSBURGH, Dec. 22.—While there had been a natural and inescapable tendency for the volume of steel buying to fall off in the lines in which there were price advances recently, the market keeps active very well, and remarkably well considering that the usual thing is for buying to drop off quite sharply in December.

The reports during November of heavy buying of steel products are substantiated in a concrete way by the unfilled tonnage report of the United States Steel Corp., which showed an increase in unfilled obligations during November of 506,699 tons, the largest increase for any month since September, 1922, when the ending of the coal strike had loosened up buyers and sellers alike. November shipments of the Steel Corp. were about 70 per cent of capacity, against about 66 per cent the preceding month, and the increase in unfilled tonnage represented 38 per cent of capacity, indicating that bookings during the month were at about 108 per cent of capacity.

Since the first of the month steel mill operations have averaged about half way between 75 and 80 per cent, against 71.6 per cent in November and 66.4 per cent in October.

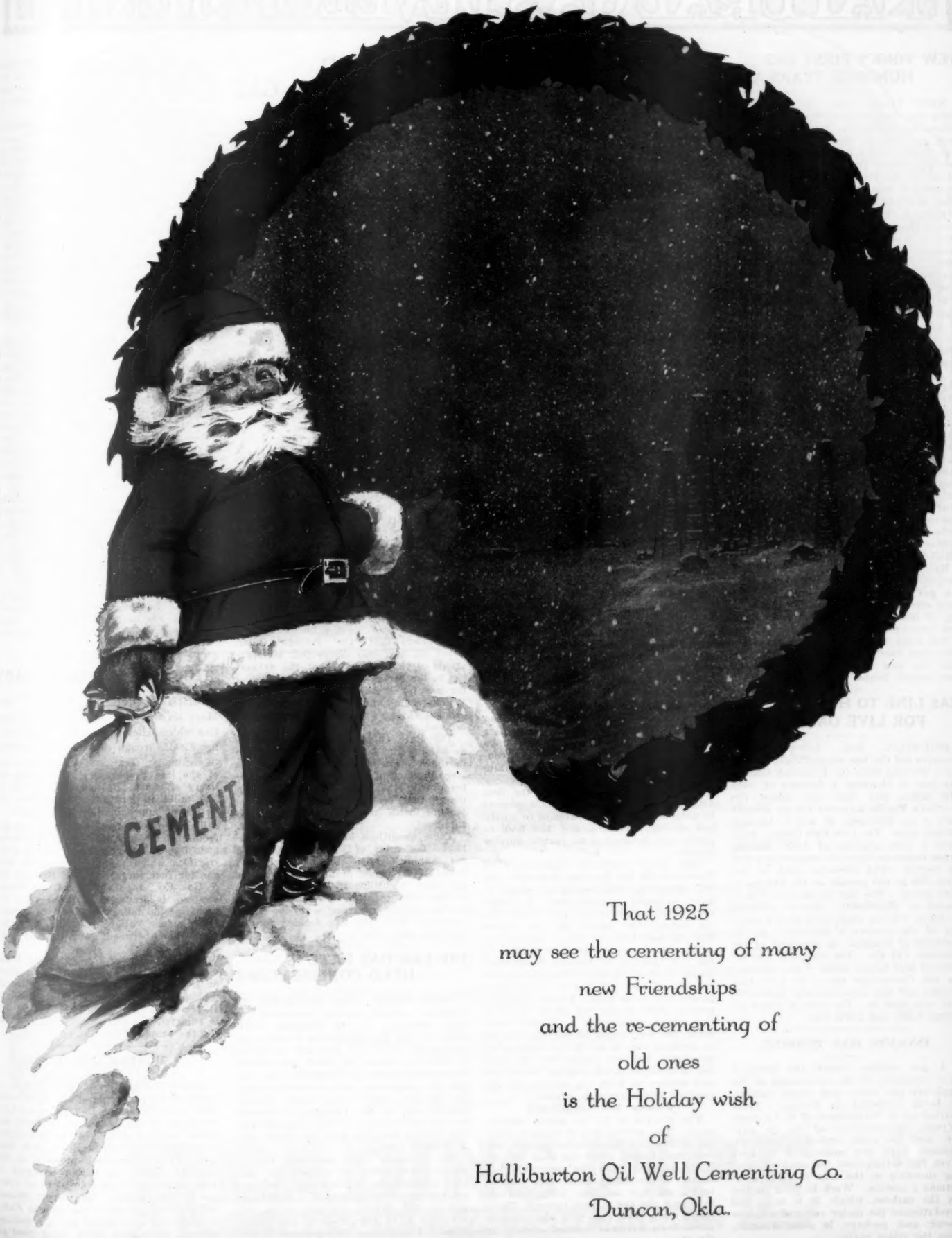
It is quite unusual for production and shipments of steel to increase at this time of year. The reason for the present trend is that buyers had liquidated stocks with unusual thoroughness before the election and with a renewal of confidence in the future and a tendency in steel prices to rise they have been buying freely and replenishing stocks. Much of the business placed is to be filled after January 1, and predictions are that mill operations will be still heavier then. At the same time it is hoped buyers will not take more steel than they can use, resulting in a subsequent decline as has occurred in the past two years, after April in 1923 and after March in 1924.

The advance in sheet prices which mills have been making one at a time for several weeks past is now practically complete. Each mill pursued the policy of accumulating a comfortable backlog before advancing. A moderate amount of sheet business is now going at the advanced prices, 2.70 cents for blue annealed, 3.60 cents for black and 4.75 cents for both galvanized and automobile sheets, chiefly for delivery in the latter part of next quarter.

Pipe mill operations are quite heavy for the time of year, between 75 and 80 per cent of capacity. There has been a heavy demand for merchant pipe and a moderate demand, rather good for the season, in oil country goods. Line pipe is quiet.

Independent coke operators in the Connellsville region have advanced wages, effective December 16, to the Frick scale of August 23, 1922, which the H. C. Frick Coke Co., the fuel subsidiary of the Steel Corp., has kept in force. Last May and June the independents reduced wages to an average of nearly one-third below the Frick scale. Until lately the Frick Co. was operating few ovens in the region, the Steel Corp. being able to get along with the coke supplies furnished by by-product ovens, but lately, with heavier blast furnace operations, it has had to put in many Connellsville region ovens, resulting in the lower scale becoming untenable. Coke sold recently by the merchant operators for first quarter was subject to a wage clause, which will add an average of about 75 cents to the contract prices, which were written successively at $3.25, $3.50, $3.75 and $4 as the market rose in remarkable fashion during the buying. Blast furnace costs will be correspondingly increased and pig iron prices are likely to have a further rise.

Tin plate contracting for the first half of the new year has been very active in the past fortnight, confirming recent predictions that 1925 will be a record year in tin plate consumption. There is a much better demand for tin plate for making export oil containers than there was for the present year. The usual concessions are being made for large tonnages, from the regular market price of $5.50 for 100-pound coke tin plates.




That 1925
may see the cementing of many
new Friendships
and the re-cementing of
old ones
is the Holiday wish
of
Halliburton Oil Well Cementing Co.
Duncan, Okla.

# NATURAL GAS DEVELOPMENTS

## NEW YORK'S FIRST GAS HUNDRED YEARS AGO

NEW YORK, Dec. 20.—Just 100 years ago this month workmen and pipefitters were finishing the laying of the first gas lines in this city. The main was a mile and a quarter in length, extending down Broadway from Grand Street to the Battery and having ramifications in side streets that brought the total length to about 6 miles.

Early in 1823 Samuel Leggett, Moses Cunningham, Thomas Morris, Robert Bogardus, George Buckmaster and others "associated to form a gas light establishment." Six weeks after obtaining the charter the company received permission from the Common Council to lay mains.

In April, 1824, the company was in a position to give a modest demonstration of gas light in Water Street, to which the public was invited, and in The Evening Post of April 24 the following notice appeared:

Gas Light—The exhibition of gas lights last evening at 286 Water Street attracted a great number of ladies and gentlemen, notwithstanding the unfavorable state of the weather; it will be repeated again this evening. Six new burners have been added, which rendered the display considerably more brilliant than on the preceding occasion. It has been suggested that it would be more gratifying to our citizens to have the apparatus removed to a more central situation than where it is at present. We think either the City Hotel or Washington Hall would be more eligible.

By November 6 miles of mains had been laid and before the end of the year the gas plant had been built and the tank erected. Applications for the lighting of 300 stores, dwellings and offices had been received.

Not until March, 1825, did gas actually come into use, and it was May before the new gas posts on Broadway bore lighted lamps.

## GAS LINE TO HOUSTON FOR LIVE OAK COUNTY

HOUSTON, Tex., Dec. 20.—The Houston Oil Co. has secured right of way for a gas line from the Live Oak County gas field to Houston, a distance of some 210 miles. The line will follow the Southern Pacific Railroad for the greater part of the distance. It will be 18 and 20-inch pipe. The Live Oak County wells have a rock pressure of 1,000 pounds, hence engineers figure no compressors will be needed. The pressure must be cut from 300 to 400 pounds on the line to insure safety. The cost of the line is estimated at $6,000,000. Actual work of laying it will not start until after a meeting of the company's directors. E. H. Buckner of Houston, is president of the Houston Oil Co. The company has developed four square miles of gas territory on the Cartwright ranch in Live Oak County and has approximately 50,000,000 feet now shut in. The sand is found between 1,960 and 2,200 feet.

### INVENTS GAS TURBINE

A gas turbine, which the inventor says combines all the advantages of the explosive gas motor and steam turbine, is being perfected in France. Tests carried out in the presence of M. Laurent-Wynac, undersecretary of the air service, and his chief technical assistant, Colonel Goys, are understood to have given full satisfaction, the machine turning smoothly at the rate of 1,500 revolutions a minute. Work is being pushed on the turbine, which, it is said, will revolutionize the motor car and airplane motor, and, perhaps, in some domains, even the steam engine.

## PURIFICATION PROCESS APPLIED SUCCESSFULLY TO NATURAL GAS

By Victor Lauriston

CHATHAM, Ont., Dec. 20.—For the first time on record natural gas containing hydrogen sulphide is being successfully purified on a commercial scale. A plant for this purpose, stated to be the first of its kind in connection with the natural gas industry, is now in full operation at Port Alma, Ont., in connection with the pipe line system of the Union Natural Gas Co., which supplies Chatham, Windsor, Petrolia, Sarnia, Wallaceburg, Ridgetown and intermediate points, largely from the Tilbury Field.

The natural gas from the Tilbury Field, first developed in 1906, contains a small percentage of hydrogen sulphide. This hydrogen sulphide not merely gives the gas and the burnt fumes a very disagreeable odor, but the sulphur content has a decidedly corrosive effect on pipe lines, distributing lines, meters and other equipment; as well as upon stoves, furnaces, stove pipes and kitchen utensils used by consumers. The sulphur also blackens silverware, metal work, picture frames, painted walls, and other articles. Owing to the sulphur content the use of the unpurified gas for lighting was prohibited by the Government.

When the Tilbury gas was first introduced, some individual purifiers were used; but they never came into general use. In 1913 the Southern Ontario Gas Co. attempted general purification of all the gas drawn by its system from the Tilbury Field, through the construction of a purifying plant at Glenwood. This plant, however, though it is reputed to have cost around $200,000, failed to accomplish its purpose.

**On Manufactured Gas**

A few years ago a process for purifying manufactured gas perfected by the Koppers Co. of Pittsburgh, Pa., was tested by the Union Natural Gas Co. on an experimental scale. While the process gave some promise, the uncertainty of the gas rate situation led the Union Natural Gas Co. to defer action. Last May, however, the decision to undertake purification was reached, and actual construction was started at Port Alma late in July.

The plant is noteworthy as the first attempt to apply the Koppers Co. process to natural gas, the first attempt to purify gas at high pressure, and the first to purify gas possessing no carbon dioxide content.

The plant operated tentatively on November 26, but has just been put into full operation. The results are stated to have exceeded expectations; a single unit handling the entire gas supply for the communities served by the Union Natural Gas Co..

The operating machinery is housed in the rear portion of the old compressor plant at Port Alma. This equipment consists of two generators, three large pumps and three fans. Behind the compressor plant is the rest of the purification plant, comprising a 150-foot steel stack, two steel tanks 50 feet high known as actifiers, two tanks 31 feet high called absorbers, concrete sumps for the soda ash solution, soda ash storage house, and two heaters to keep the solution at the required temperature in winter.

**Process Not Complicated**

The process is by no means complicated. The natural gas as it comes from the field enters the absorber at the bottom, and, rising, meets the soda ash solution sprayed from the top. The absorber is completely filled with wooden trays, set tier on tier, with intervals to permit the gas to pass through. These trays when saturated with the solution present an immense contact surface to the gas.

The solution absorbs the hydrogen sulphide. The purified gas passes on into the pipe lines. The solution, containing the hydrogen sulphide, enters the actifier at the top, and descending comes into contact with a strong air current forced in at the bottom of the actifier by means of fans. The air current separates the hydrogen sulphide from the solution, carrying it out through the stack; while any gas that may have been carried on with the solution escapes through vent tanks on top of the actifiers. The solution, now purified and activiated, passes back into the sump, whence it is pumped into the absorber.

Besides eliminating the drawbacks previously referred to, the purification process will, it is expected, facilitate the use by consumers of better adjusted and more economical devices for burning the gas. The plant including alterations to the lines is understood to have cost nearly $200,000.

## PURE OIL CONTRACTS TO SELL NATURAL GAS

NEW YORK, Dec. 20.—The Pure Oil Co. has contracted to sell natural gas produced on its Kanawha County, West Virginia properties to the Hope Natural Gas Co. for a period of years. The price named in the contract is not announced. For the last several years this company's natural gas production has been largely utilized in the operation of its salt plant located at Bell, W. Va.

While Pure Oil originally acquired these properties for natural gas production and it was in the course of their development that the famous Cabin Creek oil field was discovered, oil operations of the company kept the natural gas in the background. Growing demand for gas for domestic purposes in Ohio, Pennsylvania and West Virginia has brought this gas production seriously in demand.

The Pure Oil Co. has been regarded as holding the key to the situation due to the location of its properties and its large production. Conclusion of the contract with the Hope Natural Gas Co. places that company in a commanding position with relation to natural gas supplies.

These conditions have operated to enhance the value of Pure Oil's growing gas supplies until the company has found it far more profitable to sell its gas than to utilize it in the operation of the salt plant. With the consummation of the contract with the Hope company, Pure Oil has decided to discontinue this plant.

## DOLLAR GAS RATE IS HELD CONFISCATORY

NEW YORK, Dec. 20.—James G. Graham, special master appointed to take testimony in the litigation instituted by the gas companies to make effective the dollar gas law, has completed a tentative report, in which he sustains the contention of the companies that the law is confiscatory and unconstitutional. A similar report was made several months ago by Mr. Graham in relation to two subsidiaries of the Consolidated, the Queens Gas Co. and the Bronx Gas & Electric Co.

Mr. Graham finds not only that a dollar rate would be confiscatory, but that it would also be confiscatory to compel the company to furnish a quality of gas of 650 British thermal units, and that the $1.15 rate fixed by the Public Service Commission fails to yield a reasonable return on the investment. The dollar rate, he states, would not have yielded more than 3.4 per cent on the investment at any time since the law was enacted, and only 2.5 per cent on the present value of the property.

He also finds that the bare operating expenses of the company was 85.89 cents per 1,000 feet of gas in 1922, 82.63 in 1923 and at least 80.76 at the present time. Taking these costs as a basis the master finds that in order to obtain an 8 per cent return on the investment the price of gas should be substantially more than $1.25 per 1,000 feet. The total reproduction cost of the property used in the service, the master states, is $162,658,217.63, and the total actual investment is at least $99,159,763.57. The present value of the property he finds to be $134,099,182.91. The company is allowed $9,000,000 for going value, $7,781,000 for franchises, and $6,500,000 for working capital.

The findings of Special Master Graham are the most important yet made in the litigation against the dollar gas law. Should they be upheld through to the United States Supreme Court, not only will the dollar gas rate be thrown out, but the companies can prove that the old rate of $1.15 per 1,000 feet is inadequate. Successful conclusion of the fight to the highest court, on the basis of the master's report, will mean that New York City gas companies will be entitled to a rate of at least $1.25.

Such a rate would be based on the master's findings of an actual investment in gas properties by Consolidated Gas, not including gas subsidiaries, of $99,000,000; that the company is entitled to an 8 per cent return, and that to get such a return would require a rate of $1.25.

This is without taking into consideration the fact that the master clearly held that the dominant element in valuation is reproduction cost of the properties.

## COTTON VALLEY LINE THROUGH WASKOM READY

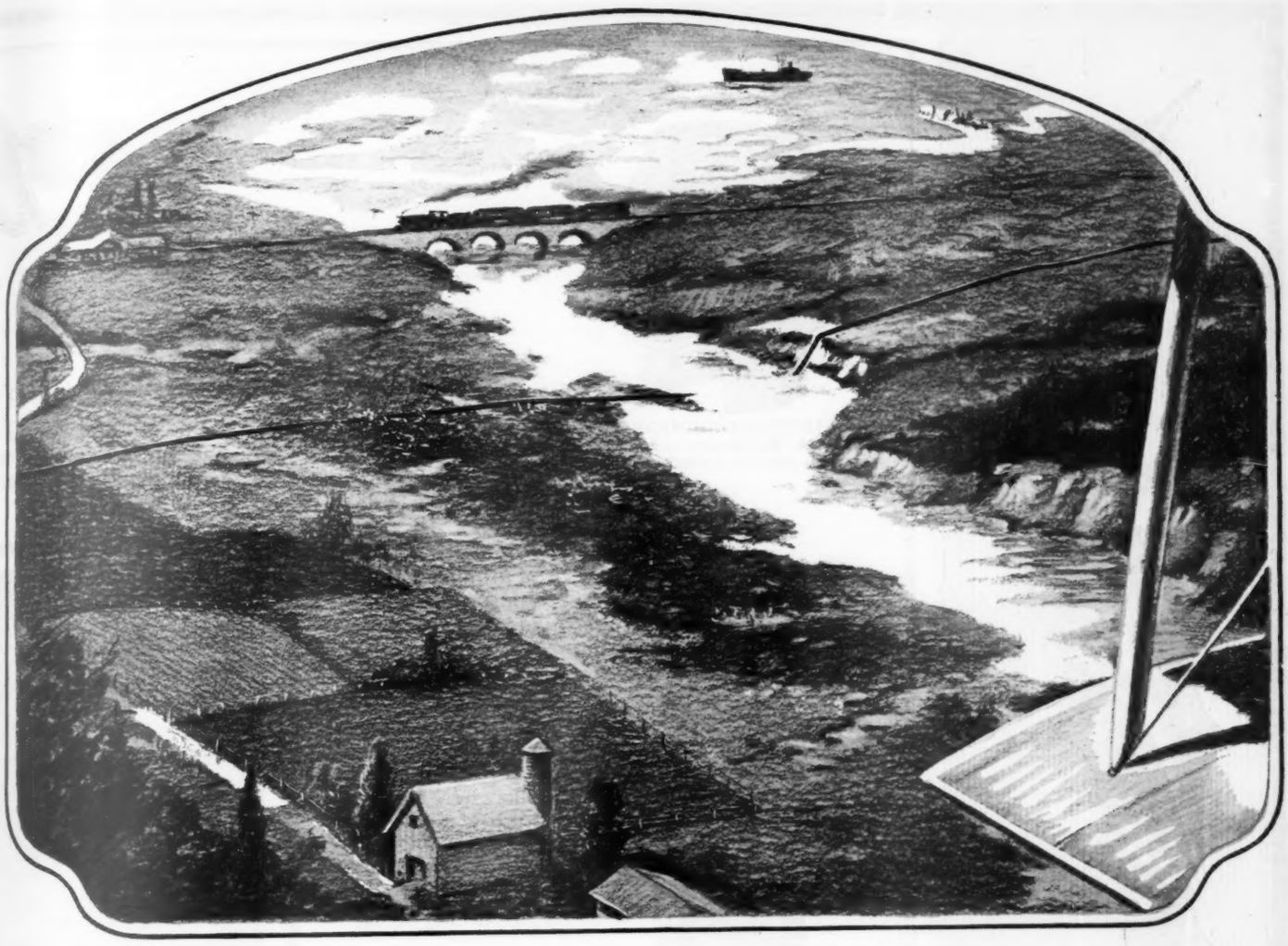
SHREVEPORT, La., Dec. 20.—The Magnolia Gas Co. is packing its 16-inch line which extends from the Cotton Valley Field, through the Waskom gas field, to Beaumont, Tex., and will make a test of the line preparatory to starting delivery of gas to Beaumont. The line is 215 miles in length and represents an outlay of approximately $10,000,000.

This is the second line now taking gas from the Waskom Field, the first being owned by the Southwestern Gas & Electric Co., which supplies Shreveport with gas for fuel purposes. The Bethany Oil & Gas Co., a subsidiary of the Southwestern, is preparing to hook up a 12-inch line, 30 miles in length, to connect the Cotton Valley gas field with the main line between Mooringsport and Shreveport.

The Chamber of Commerce of Longview, Tex., has appointed a committee of five to investigate the feasibility of piping gas from the Waskom Field to Longview, and intermediate points. It is rumored the Dallas Gas Co. is backing the proposal.

### MONROE GAS OFF

SHREVEPORT, La., Dec. 20.—As a result of the regauging of the Monroe gas field by the Louisiana Department of Conservation, it has been learned there has been a decrease of 8.8 per cent in the open flow capacity of all wells in that field since April. The rock pressure in the districts where the carbon industry is most active has been reduced to an average of 337 pounds. The report showed 335 producing wells in the Monroe Field, of which 55 were closed down, a reduced demand for carbon black being cited as the cause.



# At Least Bridge
# The Weak Links in the Pipe Line

For ultimate economy Reading Genuine Wrought Iron Pipe should be used throughout the entire pipe line. Where immediate cost is a major consideration the least that you should do is to bridge the spots which cause pipe corrosion most quickly.

Somewhere along the line you meet at least one of the four great destroyers of pipe life—salt water, alkali, river crossings or marsh lands.

Why not bridge those danger spots with the pipe that resists those conditions best? Install the necessary number of joints of Reading Genuine Wrought Iron Pipe to make those links strong and avoid the constant menace of losing some of your oil.

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READING, PA.
*World's Largest Makers of Genuine Wrought Iron Pipe*
Oil Well Supply Co., Distributors
Stores in all Important Oil Fields

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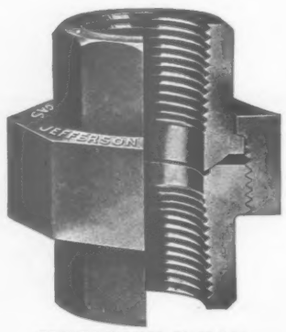
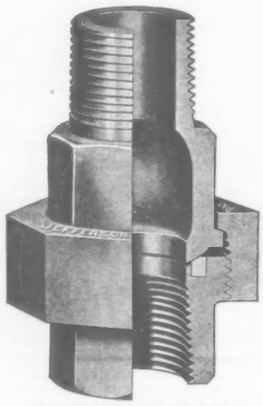
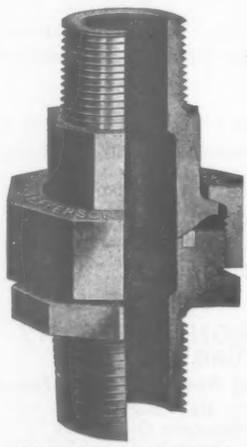
# READING PIPE
GENUINE WROUGHT IRON




JEFFERSON UNION
Style A, Recommended for 300 pounds working pressure.




JEFFERSON UNION
Style H, with male and female threads.



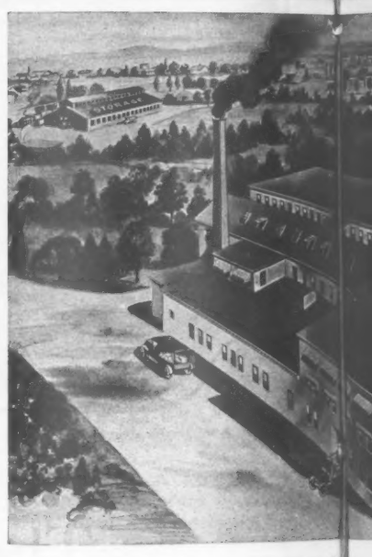

JEFFERSON UNION
All male style, Recommended for 300 pounds working pressure.

Jeffe

# UNIONS

*"The Mechanically PERFECT Union"*

With the determination to "do one thing well," the Jefferson Union Company has specialized for many years in the manufacture of unions, flanges, and fittings, and has developed through this period a line of products which approximate the ideal in mechanical perfection, yet, due to sales volume, can be sold at prices which compare with those asked elsewhere for less highly perfected fittings.



Plant of the Jefferson Union Company

MATERIALS used are high-grade, air-refined, malleable iron, and high-grade brass.

A GROUND-BALL, BRASS-TO-IRON JOINT, is a feature of all Jefferson Unions. This joint insures against corrosion and eliminates need of a gasket. The parts of each union are ground together and kept in pairs to insure a perfect-fitting ground-ball joint. The brass seating is a patented feature, the brass ring being located in a recess away from the runway, where it is protected from dislodgement or injury.

GENERAL OFFICES:

*Distributors to the*

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*Manufactured by the Jefferson*

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# FLANGES

*Ground-Ball, Brass-to-Iron Joints*

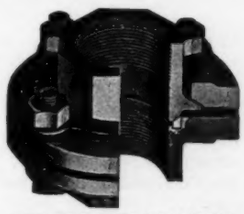
JEFFERSON Flanges are characterized by the same fine materials, careful workmanship and special features of design which have been mentioned in connection with JEFFERSON Unions.

on Union Company, Lexington, Massachusetts

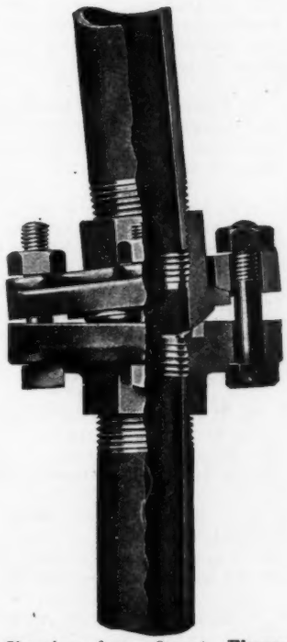
Our three-part flange shown here is notable for the ease with which it is applied. With the ordinary cast-iron flange it is necessary to use considerable force to bring the bolt holes opposite each other; and such force is liable either to break the flange or rupture the pipe end on which the pressure is being applied. In addition, a lot of unnecessary time is consumed.

In the JEFFERSON all these losses are eliminated. The loose collar is swivelled around and the bolt holes brought into the desired position without a moment's trouble or delay.

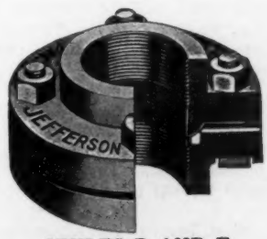
Our two-part flange lacks this advantage, but possesses all the advantages of JEFFERSON design and careful workmanship, as well as the JEFFERSON patented ground-ball, brass-to-iron joint.



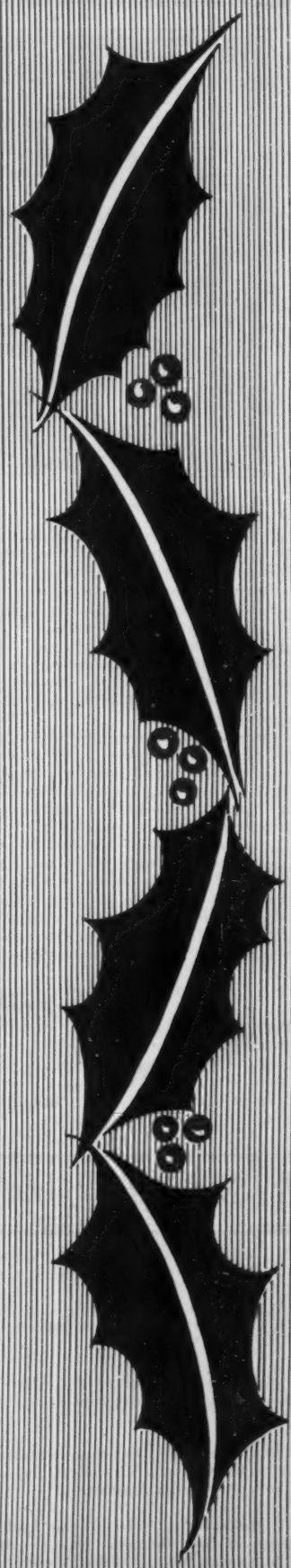
JEFFERSON FLANGE
Three-part, Style B, Recommended for 200 pounds working pressure.



Showing how 3-part Flange permits adjusting when pipe is out of alignment.




STYLES D AND E
Two-part Flange, offered (Style D) for pressures up to 500 pounds, and (Style E) for pressures up to 1000 pounds.



*tors to the Oil Industry*

NTAL SUPPLY COMPANY — ST. LOUIS

*Jefferson Union Company, Lexington, Mass.*

ERSON

# MEN KNOWN IN OILDOM

**J. B. Edwards**

Joseph Bertrand Edwards, general manager of the Tide Water Oil Company, general superintendent of the company's Bayonne, N. J., refinery and member of the board of directors, is an oil man by inheritance as well as by natural ability and training. He is a grandson of J. B. Edwards, one of the pioneer oil men of the country, who conducted a small experimental plant at Rensselaer, N. Y., back in the 60s. His father, Samuel H. Edwards, was manager and director of the Tide Water company prior to his death in 1920.

Mr. Edwards was born at Chester, Pa., on March 2, 1885. He was educated at the University of Vermont and was graduated in 1906 with the degree of mechanical engineer. He became associated with the Tide Water Oil Company in 1911 as mechanical superintendent and was promoted to the position of assistant general superintendent in March of 1918. In January of 1919, he advanced to the office of general superintendent and in November of 1920 succeeded his father as general manager of the refinery and director of the company.

Mr. Edwards has developed a number of important devices which have proved very valuable to the company.

He is a member of the American Society of Mechanical Engineers. He is actively interested in industrial welfare work, being a director of the local Industrial Y. M. C. A., trustee of the Bayonne Chamber of Commerce, and a director in the Bayonne Housing Corporation, which is providing the wage earners of Bayonne with a new standard of homes with all modern improvements.

# PERSONAL PARAGRAPHS

A. M. Van Orden, oil operator of Shawnee, Okla., was a visitor in Wichita Falls, Tex., last week.

* * *

Frank E. Hutchinson of the Moon Manufacturing Company was in Mexia, Tex., for several days last week.

* * *

L. W. Young, president of the South Penn Oil Company, made a business trip to New York City last week.

* * *

Major Thomas R. Armstrong, president of the Standard Oil Company of Bolivia, has arrived in New York from South America.

* * *

F. H. Leidecker, president of the Leidecker Tool Company, of Marietta, Ohio, was spending a few days in Casper, Wyo., visiting his brother, Glenn W. Leidecker, general manager of the Casper branch office of the Leidecker Tool Company.

Sir Henri Deterding, director-general of the Royal Dutch Petroleum Company, was married in London on December 4 to Mrs. Lydia Bagratouni.

* * *

Harry J. Byers, of the Lufkin Foundry & Machine Company, Beaumont, Tex., is one of the supply men now looking over the Wortham Field and vicinity.

* * *

E. C. McFerren has been placed in charge of the new marine department of the Atlantic Refining Company, which was recently opened in Houston, Tex.

* * *

Gene McIntyre, sales representative of the D. & B. Pump & Supply Company, is spending a few days in the Corsicana and Wortham fields of east central Texas.

* * *

Fred H. Wood, general auditor of the Sinclair companies, died of heart trouble at his home in Kansas City last week. He had just returned from a trip to Tulsa.

* * *

C. M. Coats, of the land department of the White Eagle Oil & Refining Company, Wichita, Kans., spent a few days in Wichita Falls, Tex., last week on company business.

* * *

R. L. Armitage, formerly sales representative for the Kunkle Valve Company, is now acting as field salesman for the Hercules Supply Company in the North Texas district.

* * *

A. F. Campbell, Mid-Continent representative of the Fenwick-Reddaway Manufacturing Company, left Tulsa last week on an inspection trip through the new Wortham district.

* * *

J. C. Rholfs, manager of the marine department of the Standard Oil Company of California, has been elected first vice president of the Pacific American Steamship Association.

* * *

H. G. Texter, Mid-Continent representative of the Standard Seamless Tube Company, discussed tubular goods at a recent meeting of the Purchasing Agents Association in Tulsa.

* * *

W. D. Weathers, of the Fargo Western Oil Company, with headquarters in Casper, Wyo., and Mrs. Weathers, left last week for an extended trip to New York and other Eastern cities.

* * *

I. D. Stewart, of the Marland Oil Company of Colorado's land office in Denver, spent a few days in Casper, Wyo., in connection with the starting of two test wells at Notches Dome, Wyoming.

* * *

W. E. Lockhart, general manager of the Producers & Refiners Corporation, has returned to his office in Denver, Colo., after having been away from the city on business, followed by a week's illness.

* * *

A. L. Forquer, of the Amerada Petroleum Corporation, president of the Tulsa Purchasing Agents Association, has recovered from an attack of blood poisoning which confined him to his bed for a month.

* * *

T. S. Cooke, superintendent of the Rocky Mountain division of the Standard Oil Company of Indiana, returned to the Casper, Wyo., headquarters last week after a visit to the home offices of the company in Chicago.

* * *

Charles H. Lay of Oil City, Pa., retired treasurer of the National Transit Company, spent a few days in Pittsburgh last week. Mr. Lay, since his retirement, makes periodical visits to Pittsburgh to greet his old friends.

* * *

S. C. Beesley, general auditor of the Marland Oil Company, Ponca City, Okla., accompanied by H. L. McCracken of the tax department, stopped off for a visit at the Denver offices of the company on their way to California last week.

* * *

Al Talbot, president of the Advanced Petroleum Company, of Chicago, is receiving the congratulations of his many friends on the arrival of a sturdy future president of the Advanced organization. Mother and child are both doing well.

Harry Hughes, sales manager of the Barnsdall Refining Company, and J. V. Brazier of the same company, returned last week to the Tulsa offices from a three weeks' vacation. They spent a large part of the vacation hunting near Musquiz, Mexico.

* * *

George R. Kirk, for 30 years with the pipe line companies of Standard Oil Company subsidiaries, has retired and been placed on the annuity list. Last week Mr. Kirk and his wife left for St. Petersburg, Fla., where they will make their future home.

* * *

James E. O'Neil, formerly president of the Prairie Oil & Gas Company, is spending the winter with his family at their villa in Cannes, France. Wayne V. O'Neil, son of James E. O'Neil, is returning to the United States soon, but other members of the family are not expected back for several months.

* * *

Thomas W. Leach is the new chief geologist of the Transcontinental Oil Company, with headquarters in Tulsa. Mr. Leach, who has been connected with the company for about five years, was appointed to succeed R. M. Gawthrop, who resigned to head the new geological department of the Prairie Oil & Gas Company.

* * *

A party made up of John Reid, vice president of the Joseph Reid Gas Engine Company; H. L. Hileman, sales manager of the same concern; J. E. Swindler, O. C. Staples and F. P. Hodges, of the Frick-Reid Supply Company, made a trip through the Mexia and Wortham fields following the American Petroleum Institute meeting in Fort Worth.

* * *

A large party of officials of The Texas Company, headed by E. C. Lufkin, chairman of the board of directors, and Amos L. Beaty, president of the company, conducted a tour of inspection of their properties and a general survey of the oil fields of Northern Texas and Oklahoma following the meeting of the American Petroleum Institute at Fort Worth.

* * *

William N. Davis of Bartlesville, Okla., was re-elected president of the general Mid-Continent Oil & Gas Association in connection with the American Petroleum Institute. Walter B. Pyron, of Houston, was elected vice president for the State of Texas; Clyde M. Bennett, of Shreveport, La., for Arkansas and Louisiana, and B. H. Collins, of Tulsa, for Oklahoma and Kansas.

* * *

Jack W. Bates, formerly general field superintendent of the Roxana Petroleum Corporation, with headquarters in Tulsa, has resigned from the company, effective December 15. Mr. Bates has been connected with the Roxana since 1915, since which time the company's activities have shown a remarkable growth in the Mid-Continent. Mr. Bates has made no definite announcement as yet concerning his future plans.

* * *

When F. H. Hillman, vice president of the Standard Oil Company of California, stepped out of the elevator in the Texas Hotel in Fort Worth, Tex., the first morning of the recent three-day American Petroleum Institute session, the first man he met was W. W. Splane. Mr. Splane was for many years an official of the National Transit Company, one of the old-time Standard Oil Company pipe lines. He retired from the Standard's service some years ago in order to give all his attention to his private business affairs. At one time he was superintendent of telegraph for the National Transit Company, and Mr. Hillman's boss. The reunion was a happy one, and was made still more pleasant when Martin Moran, general superintendent of The Texas Company's operations in Kansas and Oklahoma, joined the party. The three had worked for the same company, Splane as superintendent, Hillman as a telegraph operator and Moran as a gauger and telegraph operator in the heyday of the Bradford, Pa., field. Speaking of the meeting with Mr. Splane, Mr. Hillman said that 45 years ago he had asked Splane for a job, and the best he could get was a promise of three weeks' work. Mr. Hillman accepted the temporary job with alacrity but it has been a long three weeks, extending through Mr. Hillman's service with the National Transit Company, later with the Buckeye Pipe Line Company at Lima, Ohio, and then with the Standard of California.

# "OILWELL"
# HEAVY DUTY OIL ENGINES

THE ALMOST BRUTE CONSTRUCTION AND THE EVER READY PERFORMANCE OF "OILWELL" HEAVY DUTY OIL ENGINES MAKES THEM HIGHLY DESIRABLE FOR THE GRUELLING SERVICE ENCOUNTERED IN THE OIL FIELDS. THE FACT THAT THEY WILL RUN ON CRUDE OR FUEL OIL IS ANOTHER RECOMMENDATION BECAUSE THE FUEL IS RIGHT ON THE JOB. THEY ARE OF THE TWO CYCLE TYPE—MADE IN TWO SIZES, 25-30 HP. AND 50 HP.

WRITE FOR BULLETIN NO. 56 OR INQUIRE AT ANY OF OUR 100 BRANCHES.

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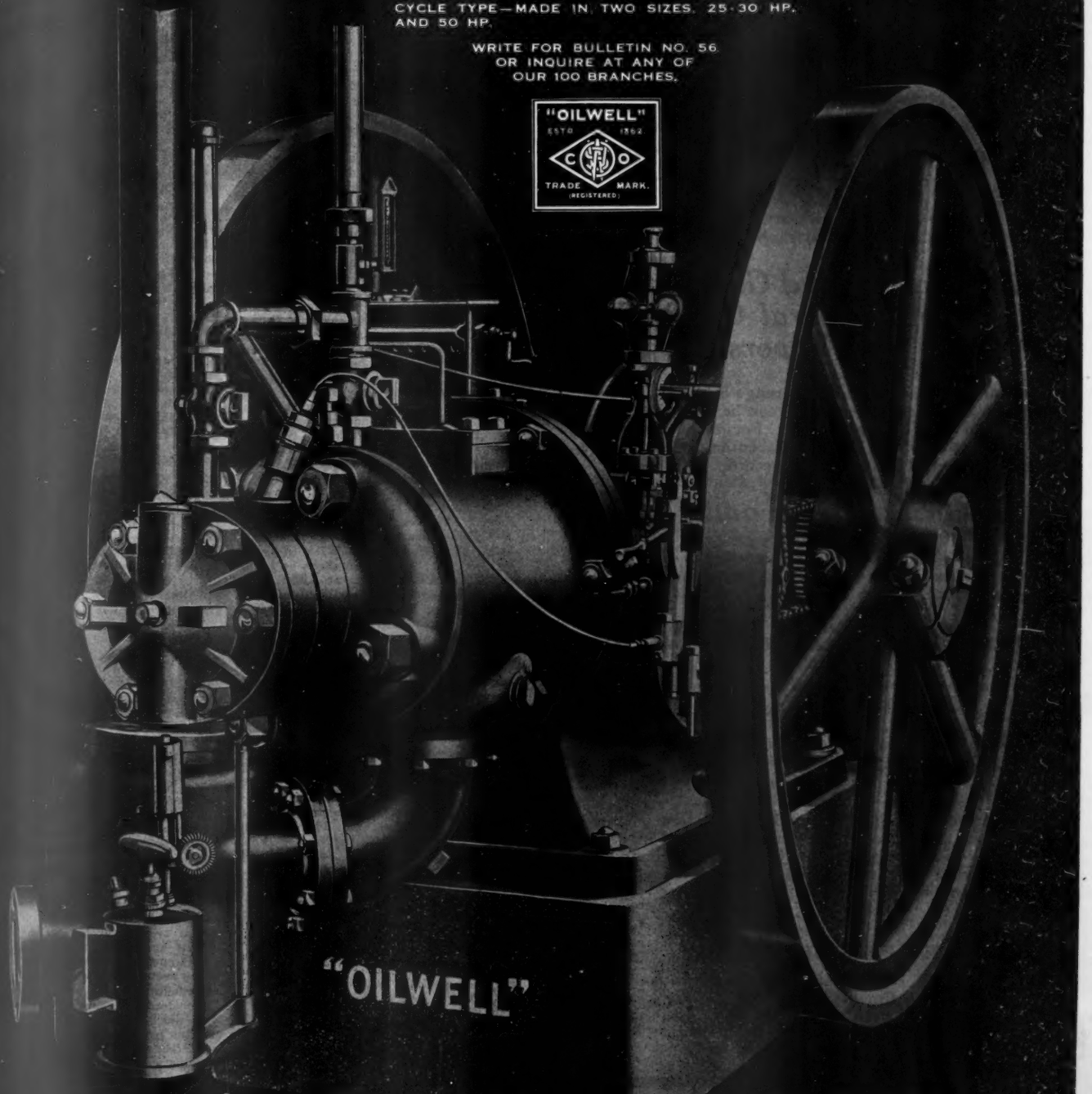
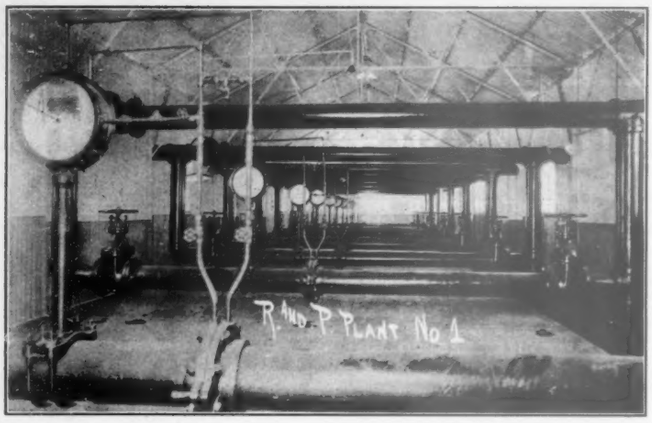



# OIL WELL SUPPLY CO.

NEW YORK LONDON—TAMPICO PITTSBURGH, U.S.A.—SAN FRANCISCO—LOS ANGELES

WORLD'S OLDEST AND LARGEST MANUFACTURERS OF OIL FIELD EQUIPMENT




# A RANGE FOR EVERY NEED

**Foxboro Orifice Meters are made in three differential ranges.**

## *For Casinghead Gas, Low-Pressure Natural Gas and Still Vapors*

**the 0-20 inches of water pressure range is especially suitable because a much larger orifice can be used than would be possible with a higher range. For vacuum work the vacuum portion of the chart is placed on the outer edge, producing a much more readable record.**

## *For Gases, Steam and Fluids*

**the 0-60 inch range is recommended. It is particularly adapted for static pressures ranging from 30 to 300 pounds per square inch.**

## *For Natural Gas at the Wells*

**or in gas gathering systems at pressures of from 200 to 900 pounds the 0-100 inch range is best suited.**

**With each range the Foxboro patent flange connections produce the highest possible differential for any given size orifice.**

**If you are not using Foxboro Orifice Meters wherever they can be used, it will cost you nothing and may save you considerable to let us show you how effectively they can serve you. Get in touch with our nearest office and write for Bulletin "0" 113.**

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THE COMPASS OF INDUSTRY

## MEXICAN FIELDS

(Continued from Page 60)

In Granadilla, it has cemented 10-inch in hard sandy gray shale at 1,753 feet.

Other south fields operations are as follows: Agwi Companies' No. 24, Lot 2 Chiconcillo is drilling in the San Felipe at 2,160 feet, setting a liner to stop caving. Cortez Oil Corp.'s No. 8 Aguada is running 6-inch at 4,952 feet, in brown lime; and its No. 11, same, will run 11-inch at 2,050 feet, in sandy shale. International Petroleum Co.'s No. 49 Toteco is drilling in the Tamasopa at 1,944 feet. Mexican Gulf Oil Co.'s No. 6, Lot 8 Tepetate is drilling in hard gray shale at 1,805 feet. Mexican Sinclair Petroleum Corp.'s No. 14, Lot 226 Amatlan is drilling in gumbo at 1,290 feet. Mexican Eagle Oil Co.'s No. 41, Lot 120 Amatlan is drilling in gray shale at 1,832 feet; its No. 42, Lot 131 Chinampa, is drilling boulders at 50 feet; its No. 2 Mecapepec, well south of the Tuxpam River, is drilling in sandy shale at 520 feet. Norris and others' No. 1, Lot 161 Amatlan, is drilling in gray shale at 1,500 feet. Pantepec Petroleum Co.'s No. 14, Lot 114 Chinampa, in which much history and at least one private fortune was made back in the palmy days of 1910-20, is a derrick.

### Northern Fields

In the Cacalilao sector of the northern fields, La Corona Petroleum Co.'s operations in Lot 4 follow: No. 145 is in the San Felipe at 1,740 feet; No. 146 in lime at 2,030 feet; No. 147-A in shale at 800 feet; No. 148 cemented 8-inch in the San Felipe at 1,180 feet; No. 149 in shale at 200 feet; and in Lot 1 No. 143 is drilling in the San Felipe at 1,625 feet. International Petroleum Co.'s operations in Lot 5: No. 34 is in gray lime at 1,570 feet, with an oil show; No. 65 in gray lime at 1,920 feet; No. 103 fishing in gray lime at 1,660 feet; No. 104 bailing hole in the San Felipe at 1,540 feet and running 8-inch; No. 115 cemented 8-inch in the San Felipe at 1,203 feet; No. 121 shut down temporarily in gray lime at 1,852 feet on account of gas from No. 123; No. 122 in gray lime with an oil show at 1,855 feet; No. 123 in the same formation at 1,800 feet, showing oil and gas; No. 124 cemented 6-inch in the San Felipe at 1,140 feet; No. 127 is in shells at 1,070 feet; No. 130 in shells at 1,200 feet; No. 135 in shells at 1,050 feet; No. 136 in gray shale at 155 feet; and in Lot 4 No. 132 in gray lime at 1,800 feet. Mexican Gulf Oil Co.'s No. 69, Lot 1, is in shale at 160 feet. Mexican Sinclair Petroleum Corp.'s No. 75, Lot 2, is in the Tamasopa at 2,110 feet; No. 97, Lot 3, in blue shale at 205 feet. Transcontinental Petroleum Co.'s operations in Lot 4: No. 110 is in lime at 1,950 feet; No. 134 in lime at 1,934 feet, showing 40 bbls.; No. 135 in gray lime at 1,735 feet; No. 137 cemented 10-inch in the San Felipe at 1,300 feet; No. 142 cemented 10-inch in the San Felipe at 1,240 feet; No. 144 in shale at 475 feet; No. 146 running 10-inch in the San Felipe at 1430 feet; No. 147 in shale at 150 feet. In Lot 5, its No. 133 is in lime at 1,965 feet; No. 136 cemented 10-inch in the San Felipe at 1,250 feet. In Lot 2 No. 132 is in lime at 2,010 feet. In Paciencia, just north of Cacalilao, Transcontinental's No. 5 is drilling in the San Felipe at 1,710 feet; No. 12 is making 1,000,000 feet of gas from 1,445 feet, with the drill making hole in the San Felipe at 1,485 feet; No. 14 is in gray lime at 1,810 feet. Weigand & Foster's No. 5, Lot 1 Cacalilao, is in the San Felipe at 1,732 feet.

### Panuco

In the older sectors of the Panuco Field drilling operations at the end of the week are as follows: Credito Petrolero's No. 1, Lot 13 Lomas y Llanos, is in lime at 2,368 feet, and No. 4, Lot 15, same, cemented 7-inch in the San Felipe at 1,580 feet. East Coast Oil Co.'s No. 22 Laguna de la Milpa is in gray shale at 950 feet; No. 23 P. Zacate in gray lime at 2,000 feet, and No. 439 Ingenio in a similar formation at 1,775 feet. Mexican Sinclair Petroleum Corp.'s No. 5 Tananturo is fishing for a drill stem in shale at 1,060 feet. National Oil Co.'s No. 12 Chijoles is in gray lime at 2,165 feet. Panuco Boston Oil Co.'s No. 3, Lot 15 Lomas y Llano, is in the San Felipe at 1,755 feet. Palmer & Payne's No. 1, Lot 3 Tamismolon, is spudding. The Texas Co.'s No. 18, Lot 15 Lomas y Llanos is in broken lime and shale at 1,694 feet. Transcontinental Petroleum Co.'s No. 18 Barbarena is spudding. Williamson's No. 1-B, Lot 4 La Canoa, is in the San Felipe at 2,135 feet.

### Ebano

At Ebano, Mexican Petroleum Co.'s operations in its La Dicha follow: No. 39 is drilling in hard lime at 1,385 feet; No. 44 fishing tools in broken lime at 1,858 feet; No. 44-B in lime at 1,490 feet; No. 49 in lime at 1,400 feet; No. 51 in white shale at 350 feet; No. 52 will cement 8-inch in lime and shale at 1,220 feet. In its Chapacao, No. 12 is drilling at 75 feet; No. 15 clearing and No. 16 rigging. Its Mendez Nos. 2 and 3 cemented 8-inch in lime at 1,280 and 1,340 feet, respectively. Its No. 1 San Pedro cemented 8-inch in lime at 1,234 feet. Its No. 5 Margaritas is drilling in lime with the hole full of oil at 1,856 feet. North of the Tamesi River, its No. 1 Tancasneque has shut down for the time being at 3,203 feet in hard brown lime.

### Corcovado

In the Corcovado district, La Corona Petroleum Co.'s No. 2, Lot 6, is spudding; No. 3, same, drilling in lime at 2,110 feet. Intermex Oil Co.'s No. 2, Lot 4-C, is in shale at 600 feet and No. 5, Lot 4-D, spudding. Mexican Gulf Oil Co.'s No. 2, Lot C, cemented 8-inch in pink lime at 1,150 feet; No. 3, same, in gray shale at 1,295 feet, and it is rigged up on two more locations and moving in material for yet another. Power and others' No. 1 Garruche, is in brown lime at 2,245 feet; No. 2 in gray lime at 2,100 feet; No. 3 cemented 8-inch in gray lime at 1,460 feet, and No. 5 in shale at 480 feet. Tamasopa Oil Co.'s No. 1, Lot C, is in gray lime at 2,200 feet; No. 2, same, is in a similar formation at 1,700 feet.

### Miscellaneous Northern

At Topila, J. E. Carpenter's No. 1 Ramirez is drilling in shale at 210 feet; La Corona Petroleum Co.'s No. 4 Los Cues, south of Topila, is drilling in shale at 1,985 feet. Cortez Oil Corp.'s No. 1, Lot 8 Cahuayotes, is running 4½-inch in the Sal Felipe at 3,018 feet. Mexican Fuel Co.'s No. 16 Santa Fe is in gray lime at 1,695 feet.

In Chila and Tortuga, La Corona Petroleum Co.'s No. 1 Chila is in gray lime at 2,085 feet. Clark and others' No. 1 Tortuga is running 8-inch in shale at 1,310 feet; Reitan's No. 4, same, is drilling presumably in the San Felipe around 1,800 feet. Head's No. 14 is caving badly at 2,005 feet in the San Felipe.

In the Marland Field, Cia. Franco Espanola's No. 19 Limon is rigging rotary; No. 21 cemented 10-inch in gray lime at 1,192 feet.

At El Naranjo, west of Ebano, International Petroleum Co.'s No. 1 is drilling in hard gray lime at 1,550 feet.

### Notes

Caltex Oil Co.'s No. 6, Lot 6 Camolote, in the Panuco Field, reported last week as a completion good for 500 bbls., has steadily increased in production until now it is rated around 6,000 bbls. The well is quite shallow for this sector of the Panuco Field being only 1,800 feet. There are no nearby wells in projection or exploitation.

Huasteca Petroleum Co. is meeting with much success with its casinghead gasoline plant at Cerro Azul. The plant is of the absorption type, and it is recovering some 9,000 gallons of 78 degree gasoline the day at this time. This highly volatile product is being pumped to terminals at Tampico through a 3-inch line laid specially for this purpose.

A. E. Watts, a vice president of the Sinclair Companies, has spent the past 10 days in Tampico inspecting properties of the Sinclair subsidiary in Mexico (Mexican Sinclair Petroleum Corp.) going over all the fields there with W. G. Tschudin, resident manager of Sinclair interests in the southern republic.

# The House With the Open Door

A spirit of open handed dealing prevails at the House of Hinderliter all the year 'round —not just during the Christmas season.

That same spirit moves us to extend to you our best wishes for the coming year. We are sincerely thankful in the knowledge that we have been permitted to serve you, and for the service which we have been able to render.

*"The Biggest Little Tool Company in the Oil Country"*

HINDERLITER TOOL COMPANY

Manufacturers of and Specialists in Drilling and Fishing Tools

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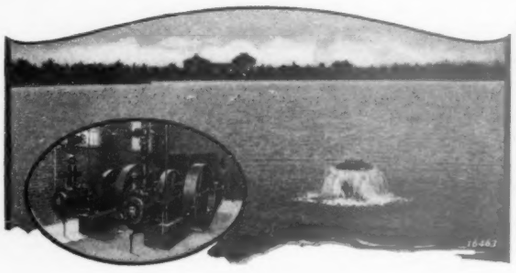
# HINDERLITER



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***Simplicity and Reliability***

No moving parts of any description in the well; not likely to sudden stoppages or breakdowns.

***Low Maintenance Cost***

The simplicity of the Air Lift insures long life—nothing to get out of order or need repairs; no depreciation when handling sand or gritty water.

***Flexibility***

The air compressor can be located at the source of power. Many wells can be operated from this one central station, the wells being located at such distances apart as will best maintain an economical pumping level.

***Aeration***

Water for domestic supply is improved by the aeration; in the Air Lift water becomes intimately mixed with air in its passage through the discharge pipe.

***Large Capacity***

Limited only to the capacity of source of supply.

The efficiency and performance of the Air Lift System depends on the proper piping and the efficiency of the Air Compressors. The Ingersoll-Rand Co. are specialists among these lines and will gladly assist you with your Air Lift Problems.

***A complete detailed description of the principles and operation of the Air Lift System is found in Bulletin 77—sent on request.***

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**Ingersoll-Rand**

# PROSPECTS NEAR BARKER CREEK DOME IN COLORADO AND NEW MEXICO

When the Midwest Refining Co., in October, 1921, drilled its first well on the Ute Dome, which lies largely in Township 32n, Range 14w, New Mexico, and struck natural gas in large volumes, the discovery at once suggested that oil and gas might be found in the neighboring Barker Creek Dome and other structural uplifts in the vicinity. This area, which had been visited in 1912 by Max Pishel, of the Geological Survey, Department of the Interior, was mapped in 1923 and 1924 by two other Government geologists, J. B. Reeside, Jr., and W. W. Boyer, who obtained some of their information from representatives of the oil companies operating in the region.

Two wells have been drilled on the Ute Dome by the Midwest Refining Co. and one by the Producers & Refiners Oil Co., all near the corner common to Sections 1 and 2-31n-14w, and Sections 35 and 36-32n-14w. These wells together produce more than 125,000,000 feet of natural gas a day. A fourth well was drilled in Section 34-33n-12w, Colorado, by J. A. Leidecker and others. This well, which was carried to a depth of 3,603 feet, struck small quantities of oil and gas at the horizons shown in the accompanying table of geologic formations, but did not obtain gas or oil in paying quantities. Three wells are now being drilled in this area, one on the Barker Creek Dome, by the Gypsy Oil Co., and two by the Leidecker interests, one of which is in Section 3, Township 32n, Range 12w, Colorado, and the other on the east flank of the Ute Dome. The location of these wells, except the last mentioned, is shown on the accompanying map.

The general character and the thickness of the geologic formatios in the vicinity of the Barker Creek Dome that are of present interest to the driller are summarized in the accompanying table:

**Geologic Formations in Parts of San Juan County, New Mexico, and LaPlata County, Colorado, Near the Barker Creek Dome**

| Subdivisions— | Thickness (ft.) | Character of rocks and possible oil and gas horizons recognizable in drilling— |
|---|---|---|
| Recent deposits ..... | 0- 30 | Stream gravels and alluvium. |
| Pleistocene terrace gravel ... | 0- 60 | Widespread terrace gravels lying principally east of LaPlata River. |
| Upper Cretaceous— | | |
| Fruitland formation ..... | 340+ | Gray sandy shale, gray-white cross-bedded soft sandstone, brown indurated sandstone, carbonaceous shale and coal. |
| Pictured Cliffs sandstone... | 150- 210 | Buff to light-yellow and gray sandstone interbedded with thin gray shales. |
| Lewis shale ..... | 1,810 | Gray to black marine shale, few concretions or sandy zones. Base marked by yellowish-brown calcareous sandstone, 1 to 3 feet thick exposed in Long Hollow and Government Draw. |
| Mesaverde group— | | |
| Cliff House sandstone.... | 292- 350 | An exceedingly variable series of gray-white to buff sandstone lenses, characteristically cross-bedded; lenses of gray shale and sandy shale. This member forms a prominent rim around Barker Creek and Ute domes and where fully exposed is a cliff-maker. Contains brackish water and marine shells. |
| Menefree formation ..... | 570- 750 | Gray shale and buff sandstone in about equal proportions, containing coal and carbonaceous shale beds, the most widespread of which occurs near the base of the formation. Yielded show of gas at Leidecker No. 1 well, 620 feet below top of the formation. |
| Point Lookout sandstone. | 190- 250 | Gray-White massive sandstone, 90+ feet thick, underlain by 50 to 90 feet of sandy shale, which in turn rests upon a massive sand member, 50 to 70 feet thick. The upper sandstone is easily recognized in drilling. Yielded half enough gas to first boiler and a show of oil from basal member at Leidecker No. 1 well. |
| Mancos shale .....1,938-1,985 | | Gray to black marine shale, some sandy zones. Sandy shale zone, 14 feet thick, 1,220 feet below top of formation, contained oil at Leidecker No. 1 well. |
| Dakota sandstone ..... | 220+ | Gray sandstone and gray shale with a coal bed or black shale 50 to 75 feet below top of formation. Contains oil at Hogback and Rattlesnake domes, New Mexico, and gas at Ute Dome, and yielded show of oil at the Leidecker No. 1 well. |

### Structure

The Barker Creek and related domes are minor uplifts on the west rim of the great San Juan basin, as indicated by the contour lines on the accompanying sketch map, which shows the shapes of the Ute, Barker Creek, Dry Mesa, and Red Mesa Domes and of the Long Hollow structural terrace, as well as the southeastward slope of the strata into the San Juan Basin.

The Barker Creek Dome and the Ute Dome are both unsymmetrical, each having a relatively steep southeast flank and a gently sloping northwest flank. In contrast to the Ute Dome, which has no pronounced axis of folding, the Barker Creek Dome has a marked axis, which trends northeastward to a point not far from the State line, where it turns more nearly northy, and which forks farther on, near the south line of Township 33n, Range 13w, Colorado. From the crest of this dome its axis plunges southwestward at the rate of about 100 feet to the mile, and toward the northeast it descends even more gently, so that the area of structural closure extends 6 miles into Colorado, the total closure of the dome amounting to about 300 feet.

The southeastern half of the Ute Dome and of the syncline between the Ute and Barker Creek Domes is cut by a series of faults, not shown on the map, whose general trend is N. 70 degrees W. These faults die out on the west of the flanks of the Barker Dome and on the east either in the rim of Cliff House sandstone or in the overlying Lewis shale. The blocks defined by these faults appear to include several minor folds.

The Dry Mesa Dome, in Township 33n, Range 13w, Colorado, is on a minor anticlinal axis that extends nearly at right angles to the axis of the Barker Creek Dome and its area of closure lies within the slight depression between the two at the northern end of the Barker Creek axis. The Dry Mesa Dome is indicated on the map by a 50-foot contour line. Its crest is near the corner common to Sections 21, 22, 27 and 28. The folding in this dome is very gentle, and its structural closure is about 15 feet.

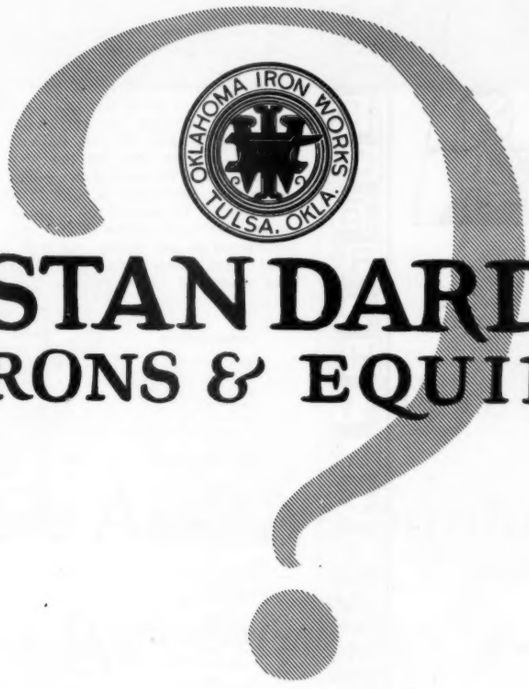
The Red Mesa Domes lies principally in Section 32, Township 33n, Range 12w, Colorado. It is a narrow, elongate structure, the axis of which bisects Section 32 from northeast to southwest. The high point of the dome is near the southwest corner of the northeast quarter of the northeast quarter, Section 32, and its structural closure is about 20 feet.

The Long Hollow structural terrace is in the Long Hollow Valley, in the southeastern part of Township 33n, Range 12w. The beds exposed at two places in the stream channel lies nearly horizontal, but beds of Lewis shale exposed near the south side of Section 27 show southward dips of half a degree to a degree and a half.

### Prospects of Oil and Gas

Gas and some oil have already been found within this area on the Ute Dome and south of the Long Hollow structural terrace at the Leidecker No. 1 well. Other localities have not yet been fully tested.

Coal beds in the Menefee formation

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REPUBLIC


and in the Fruitland formation crop out in close proximity to this area, and their content of fixed carbon is not so high as to preclude the possibility that oil may be found in commercial quantities.

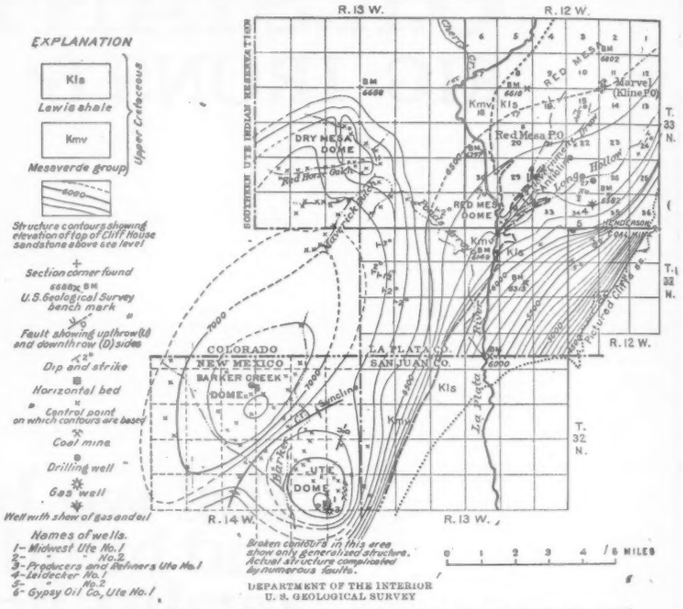
**Recommendations for Drilling**

If the test well now being drilled on the Barker Creek Dome by the Gypsy Oil Co. encounters a large flow of gas in the Dakota sandstone there, as at Ute Dome, wells drilled lower on the flanks of the Barker Creek Dome, around the margin of the gas pool, may possibly strike oil.

The Dry Mesa and Red Mesa Domes are believed to merit testing, though their structural closures are very small compared with that of the Barker Creek Dome. A test well on the Dry Mesa Dome should be started near the corner common to Sections 21, 22, 27 and 28, and should be carried to a depth of at least 3,300 feet unless oil or gas is encountered at less depth. A well on the Red Mesa Dome should be started near the center of the northeast quarter of Section 32, and should be carried to a depth of at least 3,500 feet.

The nearest railroad point is Durango, which is connected by a good automobile road with the town of Marvel, in Township 33n, Range 12w. From Marvel numerous branch roads lead west to Dry Mesa and south to Long Hollow and the La Plata River. A good road follows La Plata River down to La Plata post office, when a branch road leads to the Midwest Refining Co.'s camp on the Ute Dome. The Gypsy Oil Co. has constructed a road from the river to its camp on the Barker Dome.

On the Barker and Dry Mesa Domes drilling will be hindered by lack of water, which must be hauled or piped from La Plata River. Elsewhere water may be obtained at little additional expense. Fuel for drilling on Parker Dome is obtained from the gas well on Ute Dome. Coal of good quality can be obtained from coal mines in the vicinity, or wood for fuel can be cut from the numerous thickets of juniper and scrub pine.




MAP SHOWING LOCATION OF BARKER CREEK, DRY MESA, RED MESA, AND UTE DOMES, COLO.-N. MEX.

Compiled from surveys by Max Pichel, 1912, J. B. Reeside, Jr., 1923, and W. W. Boyer, 1924

## RED RIVER CLAIMS IN FURTHER HEARINGS

WASHINGTON, D. C., Dec. 20.—Argument by Assistant Attorney-General W. W. Dyar describing 187 claimants seeking oil permits and leases as trespassers on Government property, concluded a five-weeks' Interior Department hearing involving the south half of the Red River oil field along the Oklahoma-Texas boundary. The case is now in Secretary Work's hands for decision as to whether any of the claimants have equities in the field by reason of expenditures for development before the territory was taken over by the government as part of the public domain.

Applicants demanding permits and leases, as well as share the nearly $3,000,000 realized under Government exploitation were said by Dyar to have spent no money in good faith and take no risks. He termed their claims ridiculous.

"Only six wells had been drilled when the Government took charge," he continued, "and the money these trespassers are asking was realized for developments with money expended by the United States. If any permits or leases are to be given, they should be granted to the few persons who put down wells."

Secretary Work is not expected to rule on the application for at least a month.

Recovery of between $600,000 and $700,000 in taxes by the State of Oklahoma from the Interior Department in connection with the Red River oil lands is being sought by Governor M. E. Trapp, who was in Washington to confer with officials.

In a suit brought by the State of Texas, the United States Supreme Court recently decided that Texas was entitled to a gross production tax on Red River oil lands that were undisputably inside of the Texas border. Governor Trapp is confident that under this ruling Oklahoma is entitled to a similar tax on oil lands undisputably inside of the Oklahoma border. Negotiations will be started at once to recover the tax, administration of the Red River lands now being in the hands of the Interior Department.

### RUSSIA SHIPS TO EGYPT

Egyptian importations of kerosene from Russian have greatly increased during the current year. The actual amount shipped to Egypt during the first seven months of 1924 was 65,287 metric tons valued at 359,516 Egyptian pounds, or approximately $1,617,822. The average prices per metric ton of kerosene imported from the various countries during the first seven months of 1924, were as follows: From Suez Refinery, $24.30; from Russia, $24.57; from Rumania, $25.65; from the United States, $29.25.

### MARLAND MAN NAMED

Ray E. Miller, head of the safety department of the Marland Oil Co., has been designated by the Ponca City, Okla., Chamber of Commerce as its representative to the conference called by Secretary Herbert Hoover of the Department of Commerce to consider street and highway safety.

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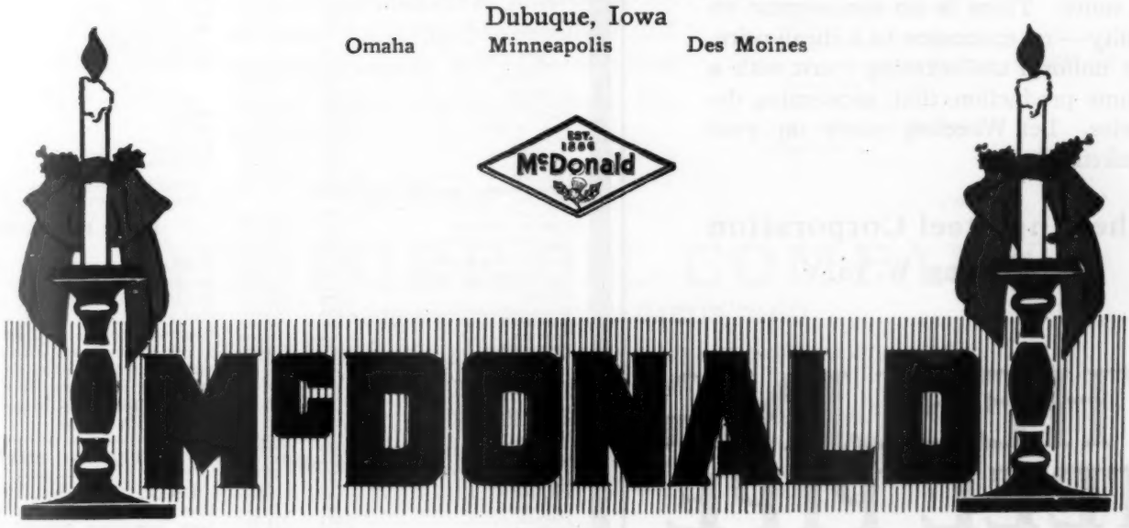

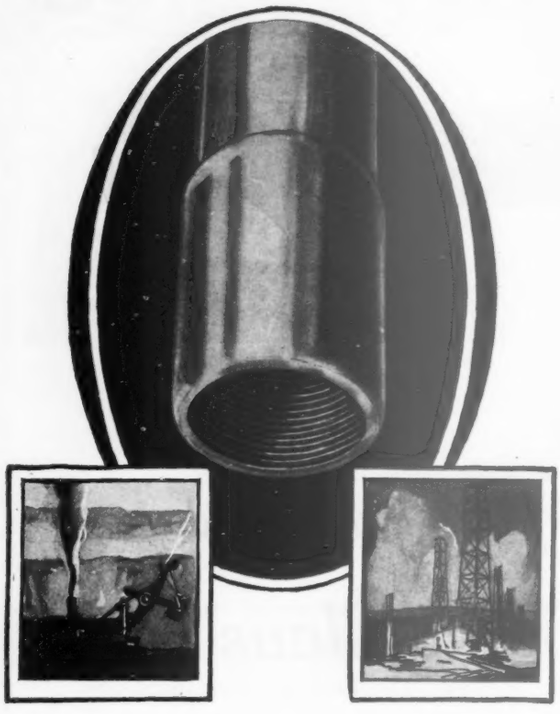

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WHEELING STEEL PIPE

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# OUTPUT BY POOLS IN NOVEMBER IN THREE BIG PRODUCING DIVISIONS

Oklahoma's crude oil production in November averaged 531,854 bbls. a day. The total for the month was 15,955,620 bbls. This was 10,770 bbls. a day more than in October and 110,700 bbls. in excess of the daily production in November a year ago. The daily production in November, 1923, averaged 411,154 bbls. and the production for the month was 12,334,620 bbls., showing an increase in November this year of 3,621,000 bbls.

Notable gains in November over the record for October were in Cromwell, which increased from 40,816 bbls. to 47,890 bbls.; Papoose-Gilcrease, which increased from 14,230 bbls. to 23,490 bbls.; Wewoka from 7,088 bbls. to 11,559 bbls.; Otoe from 6,361 bbls. to 9,379 bbls. Tonkawa fell off from 101,419 bbls. to 96,207 bbls. Stroud fell off from 6,668 bbls. to 4,572 bbls.

Production in Kansas in November averaged 86,581 bbls. a day or 2,768 bbls. a day less than in October. The Rainbow Bend Pool in Cowley County, the most important of new pools in the State, declined from 8,504 bbls. a day in October to 7,141 bbls. a day in November and the decline in the old fields in Butler and Marion County was pretty general, although individually small. Compared with November, 1923, Kansas more than held its own as the average for November, 1923, was 75,628 bbls. or 10,953 bbls. a day below the average for last month.

In the North Texas fields, including the Panhandle and the East Central Texas areas, the Wortham Field, which was opened in the latter days of last month, averaged 718 bbls. a day for the month. On December 18 it was producing 40,000 bbls. a day.

The South Vernon Field in Wilbarger County and the new development in Archer County helped maintain the average for the North Texas area.

Following are the production figures for the three producing divisions:

### OKLAHOMA

**Daily Average and Monthly Production in November, 1924**

| | Daily Aver. | Monthly Prod. |
|---|---|---|
| Washington County | 6,540 | 196,200 |
| Nowata-Rogers Counties | 6,016 | 180,480 |
| Burbank | 71,205 | 2,136,150 |
| Osage, outside of Burbank | 42,667 | 1,280,010 |
| Bird Creek, Owasso, etc. | 4,563 | 136,890 |
| Red Fork, Bruner, Sand Springs, Turkey Mountain, Fisher | 4,262 | 127,860 |
| Bixby, Leonard and Jenks | 1,989 | 59,670 |
| Broken Arrow | 588 | 17,640 |
| Mounds, Beggs, Hamilton Switch and Youngstown | 11,129 | 333,870 |
| Bald Hill | 2,588 | 77,640 |
| Okmulgee and Morris | 3,611 | 108,330 |
| Henryetta, Schulter and Tiger Flats | 2,517 | 75,510 |
| Muskogee and Wagoner Counties | 1,805 | 54,150 |
| Wewoka | 11,559 | 346,770 |
| Cromwell | 47,890 | 1,436,700 |
| Deaner-Lyons | 5,097 | 152,910 |
| Papoose-Gilcrease | 23,490 | 704,700 |
| Okemah | 265 | 7,950 |
| Weleetka | 1,386 | 41,580 |
| Wetumka | 131 | 3,930 |
| Cushing and Shamrock | 24,045 | 721,350 |
| Glen, Sapulpa and Kiefer | 9,906 | 297,180 |
| Bristow, Kelleyville and Depew | 32,766 | 982,980 |
| Eastern Bristow | 7,310 | 219,300 |
| Cleveland-Keystone | 4,263 | 127,890 |
| Jennings | 7,320 | 219,600 |
| Otoe or Watchorn | 9,379 | 281,370 |
| Yale, Quay and Ingalls | 5,094 | 152,820 |
| March Pool (N. Cushing) | 1,305 | 39,150 |
| Stroud | 4,572 | 137,160 |
| Blackwell and Deer Creek | 3,588 | 107,640 |
| Mervine | 471 | 14,130 |
| Braman | 1,063 | 31,890 |
| Ponca City | 1,076 | 32,280 |
| Tonkawa | 96,207 | 2,886,210 |
| Thomas | 271 | 8,130 |
| Billings | 431 | 12,930 |
| Garber | 4,830 | 144,900 |
| Healdton | 16,301 | 489,030 |
| Hewitt | 17,074 | 512,220 |
| Fox | 2,705 | 81,150 |
| Brock | 1,529 | 45,870 |
| Graham | 11,636 | 349,080 |
| Tussy or Sholom Alechem | 1,598 | 47,940 |
| Loco-Milroy | 2,479 | 74,370 |
| Kilgore | 192 | 5,760 |
| Comanche | 664 | 19,920 |
| Duncan | 7,224 | 216,720 |
| Walters | 1,022 | 30,660 |
| Hambro (6s-5w) | 532 | 15,960 |
| Cement | 1,995 | 59,850 |
| Robberson | 3,279 | 98,370 |
| Sayre | 161 | 4,830 |
| Allen | 268 | 8,040 |
| Total November | 531,854 | 15,955,620 |
| Total October | 521,084 | 16,153,604 |
| Difference | 10,770 | 97,984 |

### KANSAS

**Daily Average and Monthly Production in November, 1924**

| | Daily Aver. | Monthly Prod. |
|---|---|---|
| Marion County: | | |
| Florence | 1,565 | 46,950 |
| Peabody | 2,845 | 85,350 |
| Covert-Sellers | 1,073 | 32,190 |
| Butler County: | | |
| Elbing | 3,636 | 109,080 |
| Potwin | 456 | 13,680 |
| Cameron-Robinson | 729 | 21,870 |
| Wilson-Dunkle | 2,021 | 60,630 |
| Towanda | 3,185 | 95,550 |
| El Dorado | 6,504 | 195,120 |
| Fox-Bush | 2,904 | 87,120 |
| Nuttle-Koogler | 1,549 | 46,470 |
| Sluss | 503 | 15,060 |
| Blankenship | 1,139 | 34,170 |
| North Augusta | 1,187 | 35,610 |
| South Augusta | 2,332 | 69,960 |
| Smock | 239 | 7,170 |
| Douglas | 176 | 5,280 |
| Leon-Weaver | 880 | 26,400 |
| Greenwood-Woodson: | | |
| Virgil | 5,882 | 176,460 |
| Seeley | 4,454 | 133,620 |
| Thrall-Burkett | 7,439 | 223,170 |
| Sallyards | 1,716 | 51,480 |
| Polhamus | 4,786 | 143,550 |
| Teeter | 2,778 | 83,340 |
| Miscellaneous | 158 | 4,740 |
| Cowley County: | | |
| Rainbow-Bend | 7,141 | 214,230 |
| Slick-Graham | 930 | 27,900 |
| Rock (Twp 30-4) | 528 | 15,840 |
| Clark (Twp. 31-3) | 114 | 3,420 |
| Eastman (Twps. 30-6, 31-6) | 1,179 | 35,370 |
| Winfield (Twps. 32-4, 32-5) | 1,090 | 32,700 |
| Miscellaneous | 391 | 11,730 |
| Other counties: | | |
| Rice | 99 | 2,970 |
| Russell | 1,092 | 32,760 |
| Harvey | 67 | 2,010 |
| Chautauqua | 2,573 | 77,190 |
| Elk | 817 | 24,510 |
| Wilson | 306 | 9,180 |
| Montgomery | 4,508 | 135,240 |
| Allen | 1,359 | 40,770 |
| Neosho | 769 | 23,070 |
| Lyon | 66 | 1,980 |
| Miami | 590 | 17,700 |
| Franklin | 593 | 17,790 |
| Douglass | 44 | 1,320 |
| Bourbon | 43 | 1,290 |
| Linn | 435 | 13,050 |
| Anderson | 1,661 | 49,830 |
| Labette | 53 | 1,590 |
| Total November | 86,581 | 2,597,430 |
| Total October | 89,349 | 2,769,819 |
| Difference | 2,768 | 172,389 |

### NORTH AND CENTRAL TEXAS

**Average Daily and Monthly Production in November, 1924**

| | Daily Aver. | Monthly Prod. |
|---|---|---|
| North Texas— | | |
| Burkburnett | 16,598 | 497,940 |
| Electra | 18,530 | 555,900 |
| Iowa Park-K. M. A. | 4,344 | 130,320 |
| Archer County (Holliday, etc.) | 38,339 | 1,150,170 |
| Clay County | 375 | 11,250 |
| South Vernon | 4,084 | 122,520 |
| Total North Texas | 82,270 | 2,468,100 |
| Central Texas— | | |
| Clear Fork | 5,693 | 170,790 |
| Breckinridge | 8,643 | 259,290 |
| Caddo | 5,874 | 176,220 |
| Gunsight | 77 | 2,310 |
| Ranger-Eastland | 5,967 | 179,010 |
| Rising Star | 95 | 2,850 |
| Sipe Springs | 198 | 5,940 |
| Desdemona | 2,931 | 87,930 |
| Pioneer | 915 | 27,450 |
| Brown County | 918 | 27,540 |
| Callahan County | 1,622 | 48,660 |
| Coleman County | 54 | 1,620 |
| Jack County | 26 | 780 |
| Palo Pinto County | 156 | 4,680 |
| Shackelford County | 2,508 | 75,240 |
| Regan County | 7,215 | 216,450 |
| Panhandle— | | |
| Carson County | 1,118 | 33,540 |
| Hutchinson | 200 | 6,000 |
| Total Central Texas | 44,210 | 1,326,300 |
| East Central Texas— | | |
| Mexia | 23,457 | 703,710 |
| Powell | 69,242 | 2,077,260 |
| Currie | 2,408 | 72,240 |
| Richland | 18,125 | 543,750 |
| Wortham | 718 | 21,540 |
| Total E. Central Texas | 113,950 | 3,418,500 |
| Total all fields | 240,430 | 7,212,900 |

## JABEZ ROGERSON DIES

Jabez Rogerson, aged 78 years, well known oil producer and a resident of Bradford, Pa., for the past 46 years, died recently. A native of England, Mr. Rogerson located in Canada, and moved to the Pennsylvania oil fields during the early excitement. After living in Tidioute and other oil towns, he moved to Bradford in 1878 and engaged in oil producing with success.

## SUPPLYING MIXED GAS

CHATHAM, Ont., Dec. 20.—The Provisional Natural Gas Co., which has been supplying natural gas from the Niagara fields to consumers at Niagara Falls, Fort Erie and other communities since about 1889, is now delivering a mixture of natural gas and artificial gas, the artificial gas being brought from Buffalo by two pipe lines recently laid under the Niagara River.

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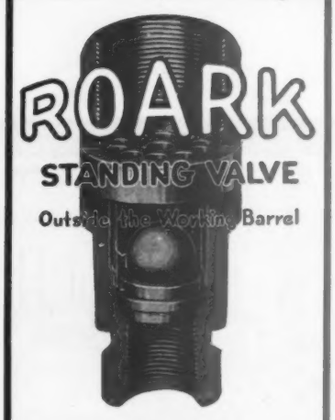


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*Longer life.*

Small maintenance cost.

*Larger ball and seat reduces speed of crude, maintains gravity and discourages cut oil and B. S.*

Furnished with California type ball and seat, operating at any speed without pounding.

*Seat frame tapped for oversize gas anchor connection.*

Body indestructible.

*Perforated plate (part of valve body) protects ball and seat from injury.*

Seat frame easily and cheaply renewable.

*Furnished to fit any working barrel.*

Regularly ordered by many of the largest companies.

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Texas Oil Pump Co
Waco, Texas


## NORTH CENTRAL TEXAS

(Continued from Page 60)

Waggoner, drilling at 800 feet; Little Oil Co.'s No. 1 Youngblood, drilling at 1,110 feet; Magnolia Petroleum Co.'s No. 66 Houston & Texas Central, drilling at 820 feet; same company's No. 46 Sumner, drilling at 1,035 feet; McCamey and others' No. 1 Richardson, fishing at 2,060 feet; same company's No. 1 Stephens, fishing at 1,560 feet; Mulligan and others' No. 1 Waggoner, drilling at 1,000 feet; Mutual Oil Co.'s No. 1 Zipperle, drilling at 650 feet; Oklahoma Texas Refining Co.'s No. 1 Bowens, underreaming; Oxford Oil Co.'s No. 1 Waggoner, drilling at 1,200 feet; Ray and others' No. 4 Bond, drilling at 900 feet; Skinner and others' No. 1 Streit, drilling at 925 feet; South Vernon Oil Co.'s No. 6 Stephens, drilling at 840 feet; same company's No. 7 Stephens, drilling at 1,000 feet; same company's No. 8 Stephens, drilling at 950 feet; same company's No. 9 Stephens, drilling at 740 feet; same company's No. 10 Stephens, spudding; same company's No. 11 Stephens, drilling at 640 feet; Staley and others' No. 1 Waggoner, drilling at 1,150 feet; The Texas Co.'s No. 1 Castlebury, spudding; Wells and others' No. 2 Waggoner, drilling at 1,700 feet; Winnipeg Oil Co.'s No. 4 Bond, drilling at 1,640 feet; Wood and others' No. 1 Boyer, spudding.

Cottle County—Woodley and others' No. 1 Dulaney, drilling in lime at 2,665 feet.

Baylor County—Dallas Oil Co.'s No. 1 Shawver, drilling at 1,880 feet; Magnolia Petroleum Co.'s No. 1 Portwood, drilling at 1,260 feet.

Throckmorton County—Clark and others' No. 1 McCarson, fishing at 1,480 feet; Darkin and others' No. 1 Richards, drilling gas sand at 795 feet; McKnight and others' No. 1 Halley, drilling at 400 feet; McNeill and others' No. 1 Davis, drilling at 1,050 feet; Plains Production Co.'s No. 1 McElroy, drilling at 200 feet.

Shackelford County—Humble Oil & Refining Co.'s No. 1 Green, drilling at 2,690 feet; Magnolia Petroleum Co.'s No. 4 George, fishing at 3,390 feet.

**Palo Pinto County**

Britton and others' No. 3 Strawn Coal Co., drilling at 2,010 feet; Cameron and others' No. 2 Pollard, drilling at 450 feet; Little Caddo Syndicate's No. 2 Mossil, drilling at 300 feet; Moore and others' No. 1 Stuart, drilling at 640 feet; Pender Production Co.'s No. 2 Slemmons, drilling at 2,450 feet; Phillips and others' No. 1 Caudill, cleaning out at 3,555 feet; Wickens and others' No. 1 Williams, drilling at 1,900 feet.

Callahan County—Dutton and others' No. 5 Cathey, drilling at 500 feet; O'Donnell and others' No. 1 Cathey, drilling at 750 feet; Prewitt and others' No. 2 George T. Crane, drilling at 900 feet.

Mitchell County—California Co.'s No. 1 Clark, drilling at 2,850 feet; same company's No. 1 Miller, drilling at 2,865 feet; Morrison and others' No. 1 Keynard, cleaning out at 3,045 feet; Sloan and others' No. 3 Miller, drilling at 1,045 feet.

Brown County—Canyon Oil & Gas Co.'s No. 1 Ellsbury, drilling at 570 feet; Davis and others' No. 2 Newton, spudding; Gillman and others' No. 6 Newton, spudding; same company's No. 7 Newton, spudding.

Reagan County—Arkansas Fuel Oil Co.'s No. 1 University, fishing at 3,355 feet; Big Lake Oil Co.'s No. 14 University, underreaming; Brandon and others' No. 1 University, drilling at 1,030 feet; California Co.'s No. 1 University, drilling at 2,075 feet; Hoffman and others' No. 1 University, drilling at 300 feet; Hughes Development Co.'s No. 1 University, drilling at 215 feet; Grayson and others' No. 1 University, drilling at 465 feet; Mid-Kansas Oil & Gas Co.'s No. 1 University, drilling at 1,835 feet; Texon Land & Development Co.'s No. 1, group 2, University, drilling at 4,050 feet; same company's No. 3, group 1, University, drilling at 2,585 feet; University Oil Co.'s No. 1 University, drilling at 2,310 feet.

Pecos County—Arkansas Fuel Oil Co.'s No. 1 Blackstone, drilling at 700 feet; Transcontinental Oil Co.'s No. 1 Sherbine, drilling at 995 feet.

## SALT CREEK FIELD HAS ROOM FOR DEVELOPMENT

(Continued from Page 32.)

this well should therefore tap the Lakota sand at its highest point and also at the point of greatest production. Statements are freely made that this well is going to set a new record for the Salt Creek Field and will even surpass the great gusher in the second Wall Creek sand that started off at 20,000 bbls. daily several years ago when the field was new.

The Lakota sand well that came in last summer at 6,000 bbls. production is about 2 miles down the structure from the well now drilling and if the drilling well on Section 35-40-79 comes in even as large as the well on Section 23-40-79, it means that Salt Creek has a virgin field to be developed that may eclipse the records of the second Wall Creek sand development.

In contrasting the operation costs in Salt Creek with costs in other States, the Salt Creek Field shows up very well in spite of the heavy handicap of distance and other obstacles. In Colorado the productive fields lie deep, close to 5,000 feet, and the same holds true of California. Through the efficient direction by the management of the large companies, field operations in Wyoming have been reduced to a very low cost compared to other regions and at the same time these costs are far below the expenses of the smaller firms.

## CALIFORNIA RECEIPTS AND PETROLEUM IMPORTS

Receipts of California crude and refined oils at Atlantic and Gulf Coast ports for the week ended December 13 totalled 409,000 bbls., a daily average of 58,429 bbls., against 581,000 bbls., a daily average of 83,000 bbls. for the week ended December 6.

| | |
|---|---|
| At Atlantic Coast ports— | |
| New York | 359,000 |
| Philadelphia | 50,000 |
| Total | 409,000 |
| Daily average | 58,429 |

Imports of crude and refined oils at the principal ports for the week ended December 13 totaled 1,799,000 bbls., a daily average of 257,000 bbls., compared with 1,591,000 bbls., a daily average of 227,286 bbls. for the week ended December 6.

| | |
|---|---|
| At Gulf Coast ports— | |
| Total Atlantic and Gulf Coast ports | 409,000 |
| Daily average | 58,429 |
| At Atlantic Coast ports— | |
| Baltimore | 382,000 |
| New York | 395,000 |
| Philadelphia | 123,000 |
| Others | 145,000 |
| Total | 1,045,000 |
| Daily average | 149,286 |
| At Gulf Coast ports— | |
| Galveston district | 38,000 |
| New Orleans and Baton Rouge | 430,000 |
| Port Arthur and Sabine district | 218,000 |
| Tampa | 68,000 |
| Total | 754,000 |
| Daily average | 107,714 |
| At all U. S. ports— | |
| Total | 1,799,000 |
| Daily average | 257,000 |

## "LEAN" AND "FAT" YEARS

OKLAHOMA CITY, Okla., Dec. 22.—The introduction by Henry Willmering rate clerk of the Corporation Commission of a report on reserve resources of the McAlester Gas & Coke Co. accumulated during the last five years, as testimony favoring the contention of the commission that the company's gas rates should be lowered, caused a sudden break in the hearing before the commission and a temporary continuance of the case. The company contended that it was unfair to pick out five "fat" years and disregard the five "lean" years preceding, during which time the corporation suffered heavy losses. During the hearing the company revealed that it recently has suffered the loss of the gas business of the electric company at McAlester, which has begun using coal instead, and that the electric company's business was nearly as great as that of other consumers combined.

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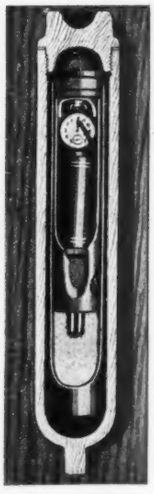

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E. T. WILLIAMS OIL CO.
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Its advantages are so positive, and its results so satisfactory that it is fast *superseding* all other methods in this field. This is its first introduction to the oil industry outside of Wyoming.

All mechanism contained in 3¼x19 inch cast iron shell—proof against water, friction and magnetism.

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**Absolutely Safe:** fully tested and assembled at factory. No possibility of short circuiting, accidental discharge or premature explosion.

**Simple in Operation:** shooter needs only to set watch, attach caps and lower to place.

**Certain Discharge** where and when you want it, guaranteed by running test at factory and firing test at well.

**Economical:** costs less than the wire used in wells of average depth.

**Time of Discharge Predetermined** by shooter—one to eleven hours.

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**You Can Swab and Lift Casing After Placing:** being time controlled and having no exterior wires you have from one to eleven hours to prepare your well properly for shot.

**Eliminates Hazardous Cleaning Out on Top of Unexploded Shot** and the attendant chance of damaging or ruining your well.

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# SLATER DOME, COLORADO, PROSPECTS SEEN BY GOVERNMENT GEOLOGISTS

Drilling for oil or gas is now in progress in northwestern Colorado, about 2½ miles east of Slater, in Moffat County, near the Wyoming line, on what is called the Slater or Little Snake River Dome. This dome lies chiefly in Sections 13 and 14 of Township 12n, Range 89w. Little Snake River flows westward across the dome just north and in general parallel to its longer axis. Slater is 10 miles southeast of Dixon, Wyo., and 18 miles southeast of Baggs, Wyo., two towns on Little Snake River and on stage lines to Wamsutter, a station on the main line of the Union Pacific Railroad, 50 miles to the north. The dome was visited in August, 1924, by J. Brian Eby of the Geological Survey, Department of the Interior, who, assisted by Nels C. Beck, studied the formations and prepared a map showing the shape and character of the dome. The results of the drilling now under way, which is being done by the Ohio Oil Co. and which will test rocks in northwestern Colorado that have received little attention are awaited with interest.

### Character of the Country

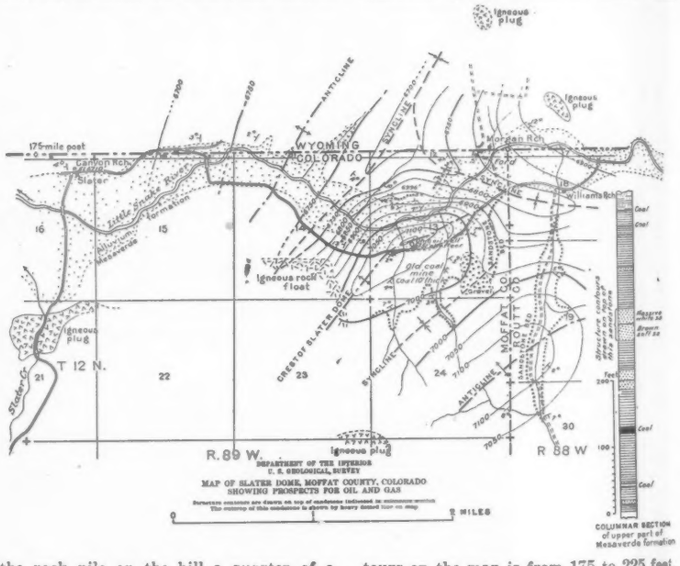
The maximum topographic relief near the dome is about 245 feet. The altitude above the sea level at Slater post office is 6,710 feet, that of the floor of the Ohio Co.'s rig is about 6,750 feet, and that of the rock pile on the hill a quarter of a mile northwest of the derrick is 6,955 feet. There are no prominent topographic features near the dome itself, the broad river flood plain covering the crest and much of the north flank of the structure. The beds of sandstone that crop out around the dome are not prominent ledge makers and have largely been planed off by erosion, and a considerable quantity of gravel is scattered over the surface north and south of the river flood plain. Several small plugs of dark basaltic rock that stand from 1 to 2 miles north and south of the dome rise to heights over 7,000 feet. One of the most notable of these plugs is the peak 1 mile south of Slater, over 300 feet high, through which Slater Creek has cut a picturesque canyon-like gorge. It is doubtful whether these small plugs have had any appreciable effect on possible oil accumulation in the Slater structure.

The surface rocks on Slater Dome belong to the upper part of the Mesaverde formation, and as the dip of the rocks away from the crest of the dome is gentle, only 500 to 600 feet of this formation is exposed. The Mesaverde, which is about 2,000 feet thick at Slater, is underlain by the Mancos shale, which, as shown by well borings on the Moffat (Hamilton) Dome, is there from 5,000 to 5,100 feet thick. The equivalent strata in the Lost Soldier Field north of Rawlins, according to A. E. Fath, and at Baxter Basin, according to unpublished measurements made by J. D. Sears, both of the Geological Survey, range in thickness from 6,000 to 7,000 feet. The Dakota sandstone, which is producing oil on the Moffat Dome, immediately underlies the Mancos shale. The figures justify the assumption that the Mancos shale under the Slater Dome is probably at least 5,000 feet thick.

The Frontier formation, which at some localities in Wyoming produces oil and gas and is equivalent to a part of the Mancos shale, lies several hundred feet above the Dakota sandstone, but sandstones at this horizon have not yet produced oil in the wells drilled in Moffat County. The Morapos sandstone member of the Mancos shale, which at Hamilton is 800 feet below the Mesaverde, if present under the Slater Dome, may be a reservoir bed and should be struck at a depth of about 2,200 feet in the well on the Slater Dome.

### Nature of the Dome

The Slater Dome is roughly oval, with its longer axis trending northeastward. The dips on the north and northwest sides of the dome range from 4 to 13 degrees; those on the south and southeast flanks range from 2 to 7 degrees. The "closure" indicated by the number of "closed" contours on the map is from 175 to 225 feet. The structure contours are drawn on the white sandstone that crops out around the Slater Dome.




Traces of oil and gas will probably be found in the part of the Mesaverde formation that underlies the Slater Dome, and oil and gas may be found in sandstones in both the upper and lower parts of the Mancos shale, if such sandstones occur here. The Dakota sandstone, the productive formation of the Moffat and Wellington Domes, may yield oil at the Slater Dome, but its great depth, probably more than 6,000 feet, makes a test of it expensive. The Slater Dome is small, but it is believed to merit a test. The well now being drilled near the apex of the dome should be considered an adequate test of the presence of oil and gas in the strata penetrated.

## WANT PRIORITY RIGHTS

AUSTIN, Tex., Dec. 20.—Attorney General W. A. Keeling has been asked by former Texas oil and gas permittees in the Red River stream bed area taken away from both Texas and Oklahoma by the Federal Government in the boundary suit, to go to Washington to urge their priority before the Secretary of the Interior for Federal permits. Millions of dollars of value in the rights to drill for oil in the stream bed which was taken over by the Federal Government is involved in the award of permits, it is said.

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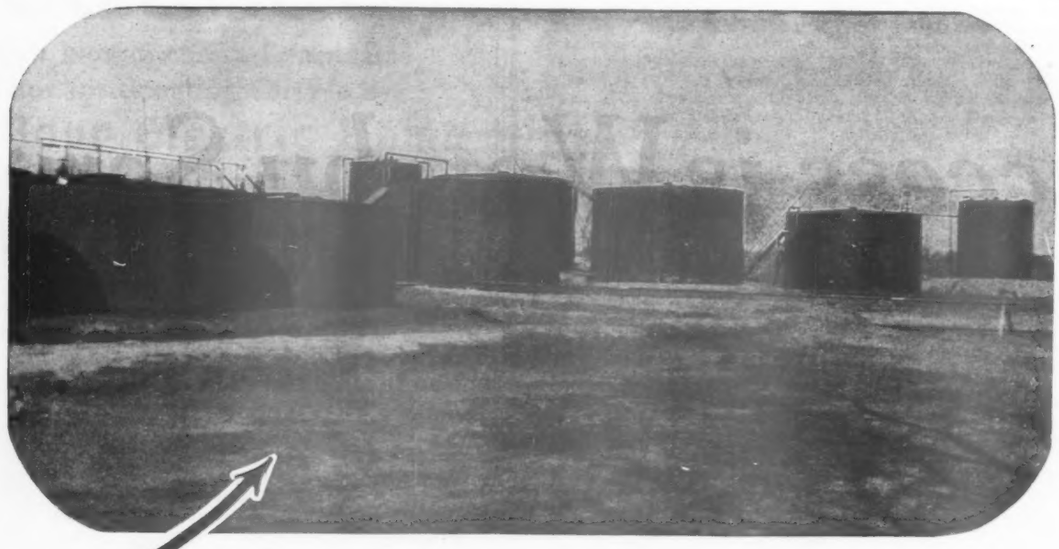

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## KANSAS FIELDS

(Continued from Page 52)

McGinnis and others' No. 3 Teeter, C SW cor. NE NW, Section 15-23-9, was drilling at 600 feet. The Skelly Oil Co.'s No. 3 Teeter, C NW NE SW, Section 15-23-9, was drilling at 350 feet.

Shaffer & Hawell's No. 11 Shindler, CWL NW SE NW, Section 15-23-13, was drilling at 1,100 feet.

The Tidal Oil Co. was spudding No. 4 South, C SE NE SW, Section 22-22-11. Kishkadden & Farr were spudding No. 1 Barrier, SE cor. NW, Section 33-25-10.

Buck and others' No. 1 Dale, SW cor. SW SE, Section 3-35-8, in Chautauqua County, was drilling at 1,175 feet.

Two dry holes were reported from Lyon County: The Southwestern Petroleum Co.'s No. 1 Houghton, NE cor. SE, Section 20-21-12, was dry and abandoned at 2,225 feet and Balliere and Terram's No. 1 Jeaneret, NE cor. SE, Section 22-21-12, was dry at 2,006 feet.

**Ellsworth County Failure**

Another failure was reported from Ellsworth County: Jasper & Beshka's No. 1 Schauf, SE cor. NW, Section 11-16-12w, was dry at 3,915 feet.

John Harron and others have spudded in and shut down No. 1 Kasper, NE cor. NW NE, Section 6-14-9w.

The Richards Refining Co. has a rig up for No. 1 Dickinson, CEL SW, Section 11-18-27w, in Lane County.

Curtis and the Superior Oil Corp.'s No. 1 McMellen, CEL NE SW NW, Section 14-29-2w, Sedgwick County, was making one bailer of oil and water an hour from sand at 3,581-3,608 feet. An attempt will be made to plug back.

The Waite Phillips Co. has staked the location for No. 1 Pruett, NE cor. SE, Section 26-33-1, Reno County.

The Kingwood Oil Co. has a rig on the ground for a wel, C SE, Section 21-19-6, 3 miles southeast of Elk, Chase County. The Phillips Petroleum Co.'s No. 1 Erwin, NW cor. NW SW, Section 1-22-8, was drilling at 650 feet.

**Russell County**

Merriam & Skelly's No. 1 Murphy, SW cor. Section 11-12-12w, Russell County, was dry and abandoned at 3,705 feet. The Skelly Oil Co. is rigging up No. 1 Oswald, NE cor. Section 18-12-15w. The Derby Oil Co. and others' No. 1 Sutton, SW cor. NE SW, Section 5-12-15w, is a rig.

Murphy and others' No. 1 Maxwell, SW cor. NW SE, Section 31-24-4, Butler County, was making 75 bbls. from sand at 2,677-2,701 feet.

H. B. Garden and others' No. 2 Crowley, NE cor. SW NE, Section 22-28-5, Butler County, was spudding. Sandifer & Gardner and spudding No. 1 Wolf, C NW NW SE, Section 26-24-3. The Phillips Petroleum Co. is spudding No. 1 Fitch, NW cor. NW NE, Section 5-25-4. Wentz and others' No. 1 Greisler, NE cor. SE, Section 22-27-6, was spudding. Shawver and others' No. 5 Meyers, NW cor. SE SW,, Section 27-28-5, was drilling at 350 feet.

The Phillips Petroleum Co.'s No. 1 Larson, NE cor. NE NW, Section 20-22-5, Marion County, was dry and abandoned at 2,605 feet.

The Empire Gas & Fuel Co.'s No. 2 Hester, CSL NE NW, Section 23-23-13, Woodson County, was being deepened at 1,715 feet. The Lima-Iola Oil Co.'s No. 2 Johnson, CEL NW SE NE, Section 2-24-14, was drilling at 1,000 feet. Polhamus and others' No. 1 Johnson, NE cor. NE SE, Section 21-24-13, was spudding.

The Skelly Oil Co. had a machine rigged up for No. 2, SE cor. SE NW, Section 4-23-13, Coffey County. Shaffer & Howell have a rig up for No. 11 Shindler, CEL NW SE NW, Section 15-23-13.

## OKLAHOMA FIELDS

(Continued from Page 50)

10-8, was drilling at 2,585 feet; Mutual Oil Co.'s No. 2 Pierce, C SE SW SE, Section 33-11-8, rigging up; Pulaski Oil Co.'s No. 1 Williams, C SE SW NW Section 33-11-8, building rig; Pure Oil Co.'s No. 1 Williams, C SE SE SW, Section 33-11-8, building rig; Sinclair Oil & Gas Co.'s No. 3 Pierce, C NW SE SE, Section 33-11-8, rigging up; Sinclair Oil & Gas Co. and Gardner Petroleum Co.'s No. 1 Pierce, C SW SW SW, Section 34-11-8, rigging up; Sinclair Oil & Gas Co.'s No. 4 Pierce, C NE SE SE, Section 33-11-8, rig on ground; Shaffer Oil & Refining Co.'s No. 1 Little, C SW NW NE, Section 10-10-8, cemented 8-inch casing at 3,152 feet, an old well deepened; Cosden Oil & &Gas Co.'s No. 11 Toney, C SW SW SW, Section 4-10-8, rig up; same company's No. 12 Toney, C SE SW SW, Section 4-10-8, rig on ground; Southwestern Petroleum Co.'s No. 6 Jackson, C NW NE NW, Section 4-10-8, rig up; same company,'s No. 7 Jackson, C SW NE NW, rig on ground; same company's No. 8 Jackson, C NW SE NW, rig on ground; Magnolia Petroleum Co.'s No. 1 Williams, C SE SE SE, Section 5-10-8, rig up.

T. B. Slick is rigging up No. 6 Bruner, C NW SE NW, Section 2-9-9, in the Papoose Pool.

**Tonkawa Field**

Completions in the Tonkawa Field include the Amerada Petroleum Corp.'s No. 35 Woods, NW cor. SW NE, Section 34-25-1w, sand 4,050-4,146 feet, 2,616 bbls.; No. 40 Woods, NE cor. NW NE, abandoned at 2,565 feet; Comar Oil Co.'s No. 4-W Clements, NE cor. SE NW, Section 34-25-1w, 2,860 bbls. from sand at 4,101-58 feet; Comar Oil Co.'s No. 1 Kincaid, SW cor. SW NE, Section 21-29-1w, sand 2,058-76 feet, 793 bbls.; same company's No. 1 McCormick, NW cor. NW SE, Section 21-29-1w, 202 bbls. from sand at 1,914-24 feet; No. 2 McCormick, NW cor. NE SE, swabbed and flowed 100 bbls. from sand at 1,945-48 feet.

The Amerada Petroleum Corp. is rigging up No. 40-A Woods, a twin well, CEL NE NW NE, Section 34-25-1w. The Comar Oil Co. is rigging up No. 12-W Clements, CWL SE NW, Section 34-25-1w, and Nofl 19-W Clements, CNL NE NW, Section 34-25-1w.

**Pawnee County**

T. B. Slick's No. 1 Hill, SE cor. NW, Section 1-21-5, in Pawnee County, was spudding at 75 feet.

The Magnolia Petroleum Co.'s No. 2 Gowling, C SW SE SW, Section 9-20-6, was rigging up. The Josey Oil Co.'s No. 1 Scott, SW cor. NW NW, Section 9-20-6, an old well being deepened, was drilling at 2,950 feet. The Texas Co. was building a rig for No. 4 Ellis, NE cor. NW NW, Section 27-20-6. C. G. Noble was spudding in No. 2 Rule, SE cor. SW SE, Section 9-20-7. The Cosden Oil & Gas Co.'s No. 7 School land, CWL SW NW, Section 16-20-7, had 1,200 feet of oil in the hole from sand at 2,606-35 feet, and was getting ready to shoot. The same company was rigging up No. 9 School land, NW cor. NW SW, Section 16-20-7. J. B. Grieves was rigging up No. 2 Hart, SE cor. SW SW, Section 30-21-8.

The Magnolia Petroleum Co.'s No. 5 Altaffer, C NW NE NE, Section 5-22-3, is rigging up. The same company's No. 1 White Mule, NW cor. SE, Section 8-22-3, was spudding at 125 feet. The Magnolia Petroleum Co.'s No. 1 Arkekata, NW cor. SW, Section 9-22-3, was spudding at 115 feet.

**In Tulsa County**

In Tulsa County, the Shaffer Oil & Refining Co. completed its No. 3 Partridge, SE cor. NW SW, Section 5-19-12, at 1,992 feet. After a 40-quart shot in a sand at 1,924-32 feet, the well was good for 30 bbls.

The Schermerhorn Oil Co.'s No. 2-A Ingram, C SE NW SE, Section 1-20-13, was shut in for 5,000,000 feet of gas from sand at 1,147-77 feet.

Hall and others were spudding in No. 1 Marshall, SW cor. Section 27-19-14. Mays Brothers and others were spudding in No. 3 Hooks, SE cor. NW NW, Section 34-19-14. The Minshall Oil & Gas Co.'s No. 2 Murphy, C S half SW SE, Section 2-18-13. Gus Bennett and others' No. 1 Holder, NE cor. SW NE, Section 14-18-11, was drilling at 350 feet. The Schermerhorn Oil Co.'s No. 1-A Washington, C NE SW SE, Section 1-20-13, was drilling at 850 feet. W. H. Pierce's No. 1-A Vernon, SW cor. NW NE, Section 3-20-13, topped lime at 1,143 feet, and was drilling at 1,173 feet. The Echo Oil Co.'s No. 4 Burrell, NW cor. NE SW, Section 7-20-13, a twin well, was drilling at 425 feet. Thompson & Black's No. 5 Bertholf, NE cor. SW SW, Section 5-16-13, was drilling at 800 feet.

**Wewoka District**

In the Wewoka Pool, the Dixie Oil Co. abandoned the location for No. 3 Parker, SW cor. NE SW, Section 32-8-8, and the Magnolia Petroleum Co. abandoned the location for No. 3 Franz, C SW SW SW, Section 32-8-8.

The Shaffer Oil & Refining Co. com-

(Continued on Page 107)

# Rocky Mountain Producers Hold Annual Convention

By F. B. Taylor

CASPER, Wyo., Dec. 20.—At the recent annual meeting of the Rocky Mountain Oil Producers Association here, Governor B. B. Brooks, president of the association, cited the results accomplished by the organization in securing a substantial reduction of the differential between Mid-Continent crude and that of this region and in preventing injurious legislation and combating unfair attempts at Government and State regulation of the oil industry. He outlined the aims of the association, most important the education of the public to a better understanding of the problems of the industry and the material benefits through unity of action.

After Secretary D. W. Greenburg had read the official call, Mayor S. K. Loy welcomed the association to the city of Casper.

The first paper on the program was "Comparative Costs in the Oil Industry," by C. A. Fisher, vice president of the Kinney Coastal Oil Co., read by Mark Danford, head of the tax department of the Midwest Refining Co. Mr. Fisher's argument was that a total elimination of the existing differential between Mid-Continent and Wyoming crude cannot be expected by the oil men, though its future average will probably be below what has obtained. At times this differential was only about 3 cents while the average of several years shows a spread of 45 cents. In the refining of the two oils there is a great and material difference in the products obtained though the gravity may be about the same. The cost of material in Wyoming is higher than in the Mid-Continent, labor likewise and the conditions of operating fundamentally different. The factors are constant and cannot be entirely overcome.

M. J. Foley of the Mutual Oil Co. endorsed the plan of a differential between Mid-Continent and Wyoming crude, but did not consider he would be able to set a definite price or percentage.

C. B. Richardson of Cheyenne and head of the Western Exploration Oil Co., declared there was no reason for any differential between the two crudes whatever. He classed the differential as an arbitrary makeshift and held crude could be refined in Casper cheaper than anywhere else. A letter from the Bureau of Mines recommended a differential of 35 cents per barrel would appear equitable all around.

**Black Oil Output**

The next paper was prepared by Geologist J. M. Douglas and Attorney R. D. Hawley of the Union Oil Co. of California, an enlightening treatise on the black oil fields of the Rocky Mountain region and its neglect by the oil industry for light oil fields.

It was shown black oil structures are more easily found and with less expense than light oil fields and the dry holes and failures were much less. Of 341 wells drilled at a cost of $9,743,310, 171 were producers or capable of production with 162 dry holes or failures. In the testing of 72 black oil structures in Wyoming 13 have proved productive and 8 are being drilled. The ultimate

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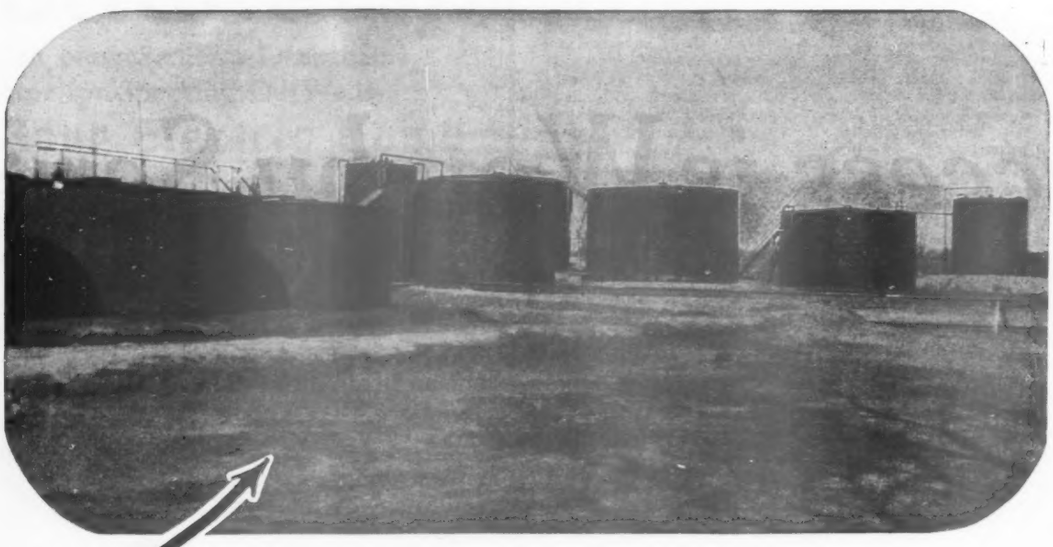
Meeting of Rocky Mountain Oil Association at Casper, Wyo.



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The "B. S." is drawn periodically from the bottoms of the storage tanks into earthen trenches which gather it into a single reservoir.

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"B. S." often contains 50% or more of pipe line oil. It is a needless waste to discard this valuable petroleum. Allow us to have our nearest field expert call and explain the TRET-O-LITE Process. No obligation entailed.

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Tret-O-lite

*Reg. U. S. Pat. Off.*

## KANSAS FIELDS

(Continued from Page 52)

McGinnis and others' No. 3 Teeter, C SW cor. NE NW, Section 15-23-9, was drilling at 600 feet. The Skelly Oil Co.'s No. 3 Teeter, C NW NE SW, Section 15-23-9, was drilling at 350 feet.

Shaffer & Hawell's No. 11 Shindler, CWL NW SE NW, Section 15-23-13, was drilling at 1,100 feet.

The Tidal Oil Co. was spudding No. 4 South, C SE NE SW, Section 22-22-11. Kishkadden & Farr were spudding No. 1 Barrier, SE cor. NW, Section 33-25-10.

Buck and others' No. 1 Dale, SW cor. SW SE, Section 3-35-8, in Chautauqua County, was drilling at 1,175 feet.

Two dry holes were reported from Lyon County: The Southwestern Petroleum Co.'s No. 1 Houghton, NE cor. SE, Section 20-21-12, was dry and abandoned at 2,225 feet and Balliere and Terram's No. 1 Jeaneret, NE cor. SE, Section 22-21-12, was dry at 2,006 feet.

**Ellsworth County Failure**

Another failure was reported from Ellsworth County: Jasper & Beshka's No. 1 Schauf, SE cor. NW, Section 11-16-12w, was dry at 3,915 feet.

John Harron and others have spudded in and shut down No. 1 Kasper, NE cor. NW NE, Section 6-14-9w.

The Richards Refining Co. has a rig up for No. 1 Dickinson, CEL SW, Section 11-18-27w, in Lane County.

Curtis and the Superior Oil Corp.'s No. 1 McMellen, CEL NE SW NW, Section 14-29-2w, Sedgwick County, was making one bailer of oil and water an hour from sand at 3,581-3,608 feet. An attempt will be made to plug back.

The Waite Phillips Co. has staked the location for No. 1 Pruett, NE cor. SE, Section 26-33-1, Reno County.

The Kingwood Oil Co. has a rig on the ground for a wel, C SE, Section 21-19-6, 3 miles southeast of Elk, Chase County. The Phillips Petroleum Co.'s No. 1 Erwin, NW cor. NW SW, Section 1-22-8, was drilling at 650 feet.

**Russell County**

Merriam & Skelly's No. 1 Murphy, SW cor. Section 11-12-12w, Russell County, was dry and abandoned at 3,705 feet. The Skelly Oil Co. is rigging up No. 1 Oswald, NE cor. Section 18-12-15w. The Derby Oil Co. and others' No. 1 Sutton, SW cor. NE SW, Section 5-12-15w, is a rig.

Murphy and others' No. 1 Maxwell, SW cor. NW SE, Section 31-24-4, Butler County, was making 75 bbls. from sand at 2,677-2,701 feet.

H. B. Garden and others' No. 2 Crowley, NE cor. SW NE, Section 22-28-5, Butler County, was spudding. Sandifer & Gardner and spudding No. 1 Wolf, C NW NW SE, Section 26-24-3. The Phillips Petroleum Co. is spudding No. 1 Fitch, NW cor. NW NE, Section 5-25-4. Wentz and others' No. 1 Greisler, NE cor. SE, Section 22-27-6, was spudding. Shawver and others' No. 5 Meyers, NW cor. SE SW,, Section 27-28-5, was drilling at 350 feet.

The Phillips Petroleum Co.'s No. 1 Larson, NE cor. NE NW, Section 20-22-5, Marion County, was dry and abandoned at 2,605 feet.

The Empire Gas & Fuel Co.'s No. 2 Hester, CSL NE NW, Section 23-23-13, Woodson County, was being deepened at 1,715 feet. The Lima-Iola Oil Co.'s No. 2 Johnson, CEL NW SE NE, Section 2-24-14, was drilling at 1,000 feet. Polhamus and others' No. 1 Johnson, NE cor. NE SE, Section 21-24-13, was spudding.

The Skelly Oil Co. had a machine rigged up for No. 2, SE cor. SE NW, Section 4-23-13, Coffey County. Shaffer & Howell have a rig up for No. 11 Shindler, CEL NW SE NW, Section 15-23-13.

## OKLAHOMA FIELDS

(Continued from Page 50)

10-8, was drilling at 2,585 feet; Mutual Oil Co.'s No. 2 Pierce, C SE SW SE, Section 33-11-8, rigging up; Pulaski Oil Co.'s No. 1 Williams, C SE SW NW Section 33-11-8, building rig; Pure Oil Co.'s No. 1 Williams, C SE SE SW, Section 33-11-8, building rig; Sinclair Oil & Gas Co.'s No. 3 Pierce, C NW SE SE, Section 33-11-8, rigging up; Sinclair Oil & Gas Co. and Gardner Petroleum Co.'s No. 1 Pierce, C SW SW SW, Section 34-11-8, rigging up; Sinclair Oil & Gas Co.'s No. 4 Pierce, C NE SE SE, Section 33-11-8, rig on ground; Shaffer Oil & Refining Co.'s No. 1 Little, C SW NW NE, Section 10-10-8, cemented 8-inch casing at 3,152 feet, an old well deepened; Cosden Oil & &Gas Co.'s No. 11 Toney, C SW SW SW, Section 4-10-8, rig up; same company's No. 12 Toney, C SE SW SW, Section 4-10-8, rig on ground; Southwestern Petroleum Co.'s No. 6 Jackson, C NW NE NW, Section 4-10-8, rig up; same company,'s No. 7 Jackson, C SW NE NW, rig on ground; same company's No. 8 Jackson, C NW SE NW, rig on ground; Magnolia Petroleum Co.'s No. 1 Williams, C SE SE SE, Section 5-10-8, rig up.

T. B. Slick is rigging up No. 6 Bruner, C NW SE NW, Section 2-9-9, in the Papoose Pool.

**Tonkawa Field**

Completions in the Tonkawa Field include the Amerada Petroleum Corp.'s No. 35 Woods, NW cor. SW NE, Section 34-25-1w, sand 4,050-4,146 feet, 2,616 bbls.; No. 40 Woods, NE cor. NW NE, abandoned at 2,565 feet; Comar Oil Co.'s No. 4-W Clements, NE cor. SE NW, Section 34-25-1w, 2,860 bbls. from sand at 4,101-58 feet; Comar Oil Co.'s No. 1 Kincaid, SW cor. SW NE, Section 21-29-1w, sand 2,058-76 feet, 793 bbls.; same company's No. 1 McCormick, NW cor. NW SE, Section 21-29-1w, 202 bbls. from sand at 1,914-24 feet; No. 2 McCormick, NW cor. NE SE, swabbed and flowed 100 bbls. from sand at 1,945-48 feet.

The Amerada Petroleum Corp. is rigging up No. 40-A Woods, a twin well, CEL NE NW NE, Section 34-25-1w. The Comar Oil Co. is rigging up No. 12-W Clements, CWL SE NW. Section 34-25-1w, and Nofl 19-W Clements, CNL NE NW, Section 34-25-1w.

**Pawnee County**

T. B. Slick's No. 1 Hill, SE cor. NW, Section 1-21-5, in Pawnee County, was spudding at 75 feet.

The Magnolia Petroleum Co.'s No. 2 Gowling, C SW SE SW, Section 9-20-6, was rigging up. The Josey Oil Co.'s No. 1 Scott, SW cor. NW NW, Section 9-20-6, an old well being deepened, was drilling at 2,950 feet. The Texas Co. was building a rig for No. 4 Ellis, NE cor. NW NW, Section 27-20-6. C. G. Noble was spudding in No. 2 Rule, SE cor. SW SE, Section 9-20-7. The Cosden Oil & Gas Co.'s No. 7 School land, CWL SW NW, Section 16-20-7, had 1,200 feet of oil in the hole from sand at 2,606-35 feet, and was getting ready to shoot. The same company was rigging up No. 9 School land, NW cor. NW SW, Section 16-20-7. J. B. Grieves was rigging up No. 2 Hart, SE cor. SW SW, Section 30-21-8.

The Magnolia Petroleum Co.'s No. 5 Altaffer, C NW NE NE, Section 5-22-3, is rigging up. The same company's No. 1 White Mule, NW cor. SE, Section 8-22-3, was spudding at 125 feet. The Magnolia Petroleum Co.'s No. 1 Arkekata, NW cor. SW, Section 9-22-3, was spudding at 115 feet.

**In Tulsa County**

In Tulsa County, the Shaffer Oil & Refining Co. completed its No. 3 Partridge, SE cor. NW SW, Section 5-19-12, at 1,992 feet. After a 40-quart shot in a sand at 1,924-32 feet, the well was good for 30 bbls.

The Schermerhorn Oil Co.'s No. 2-A Ingram, C SE NW SE, Section 1-20-13, was shut in for 5,000,000 feet of gas from sand at 1,147-77 feet.

Hall and others were spudding in No. 1 Marshall, SW cor. Section 27-19-14. Mays Brothers and others were spudding in No. 3 Hooks, SE cor. NW NW, Section 34-19-14. The Minshall Oil & Gas Co.'s No. 2 Murphy, C S half SW SE, Section 2-18-13. Gus Bennett and others' No. 1 Holder, NE cor. SW NE, Section 14-18-11, was drilling at 350 feet. The Schermerhorn Oil Co.'s No. 1-A Washington, C NE SW SE, Section 1-20-13, was drilling at 850 feet. W. H. Pierce's No. 1-A Vernon, SW cor. NW NE, Section 3-20-13, topped lime at 1,143 feet, and was drilling at 1,173 feet. The Echo Oil Co.'s No. 4 Burrell, NW cor. NE SW, Section 7-20-13, a twin well, was drilling at 425 feet. Thompson & Black's No. 5 Bertholf, NE cor. SW SW, Section 5-16-13, was drilling at 800 feet.

**Wewoka District**

In the Wewoka Pool, the Dixie Oil Co. abandoned the location for No. 3 Parker, SW cor. NE SW, Section 32-8-8, and the Magnolia Petroleum Co. abandoned the location for No. 3 Franz, C SW SW SW, Section 32-8-8.

The Shaffer Oil & Refining Co. com-

(Continued on Page 107)

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(Continued on Page 132)

Meeting of Rocky Mountain Oil Association at Casper, Wyo.,

# REFINING AND MARKETING

## NORTH DAKOTA OIL MEN ORGANIZE ASSOCIATION

The North Dakota Petroleum Association was organized at Fargo, N. Dak., last Friday at a meeting attended by representatives of 20 independent oil companies. Henry M. Wilson of Minot, N. Dak., was elected president of the new organization. H. A. Schmitt of Mandan, vice president, and B. M. Hitchcock of Minot, secretary-treasurer. A. W. Lindquist of Wahpeton was named on the directorate for one year; L. E. Aborgast of Jamestown and H. A. Schmitt, for two year, and Arnold Berg of Grand Forks and J. W. McCarty of Grenora for three years.

A constitution and by-laws were adopted at the meeting which was held at the Gardner Hotel in Fargo, and B. M. Hitchcock was selected to go to Minneapolis to study the organization methods of the Minnesota Petroleum Association in order that the North Dakota association might be perfected.

Other oil men who attended the meeting were: P. F. Berigan, of Dickinson; C. H. Helgerud, of Harvey; J. W. Devaney, of Jamestown; Osmond O. Norlund, of Klotem; George H. Shaver, of Mapleton; J. G. Odegard, of Northwood; John Kellesvig, of Rigby; W. Williamson and E. J. Pegg, of Valley City; Edward W. Island, of Velva; A. Bernard, of Wahpeton; C. G. Lindquist, of Fairmont, Minn.; and L. S. Salisbury, of Minneapolis.

## GASOLINE TAX VOTE, ILLINOIS, MICHIGAN

CHICAGO, Dec. 20.—The Michigan, Iowa and Illinois oil men and auto owners are confronted with the almost certainty that at the January sessions of the Legislatures in these States bills will be introduced with good prospects of becoming a law, for placing a 2-cent tax on gasoline. It is understood the Detroit Auto Club will force the question of a Michigan tax before the people for popular decision and that any such tax would not receive a majority of the votes of the public.

The Illinois oil men are determined to oppose any such bill and will have the support and the cooperation of the motor clubs which are strong in this State. The trouble will be to bring the necessary pressure to secure a popular expression through the polls. The vote for the $100,000,000 bond issue was carried by the statement that the public would never have to pay these bonds as they could be paid from the collection from automobile fees but these fees are already pledged to other purposes and there is little or no possibility the surplus after the prior claims are paid will be sufficient to pay off this last bond issue. The state administration is therefore anxious for a gasoline tax for that and other purely political reasons.

## GASOLINE RECOVERY PLANT FOR WORTHAM

MEXIA, Tex., Dec. 20.—The coke process of gasoline recovery from gas will be used by the large new plant to be erected near Mexia by the Humphreys-Boyd Oil Co., according to V. C. Canter, representing the Gasoline Recovery Co. of Charleston, W. Va., who has arrived here to superintend the construction. The Humphreys-Boyd Oil Co., owner of the first gusher of the Wortham Field, is anticipating the production of large quantities of gas for gasoline, as well as crude oil.

## COOPERATION URGED AT NEBRASKA MEET. BILBY ELECTED PRESIDENT

OMAHA, Neb., Dec. 20.—"Cooperation" was the keynote of the annual convention of the Nebraska Independent Oil Men's Association which met here this week. One hundred oil men from all over the State were in attendance. This was the fifth annual convention of the association and was by all odds the best in attendance of the five.

Prior to the convention the board of directors met in executive session and discussed important business pertaining to new and proposed legislation. Those present were President L. L. Coryell of Coryell & Son, Lincoln; Vice President G. A. Steele, Manhattan Oil Co., Omaha; Secretary-Treasurer C. M. Sutherland, Omaha; Directors, W. S. Bilby, Fairbury; L. Wassom, Tekamah; R. C. Shultz, Scribner; T. H. Murphy, Greeley; F. R. Linderman, Central City; and E. N. Davis, Cozad.

Vice President Steel presided at the convention in the absence of President Coryell who was forced to leave after attending the board of directors' meeting.

The opening address of the convention was made by H. G. James, president of the Missouri Independent Oil Mens Association, and newly elected secretary of the American Oil Mens Association. His subject was "The Work of the Association."

Mr. James told of the development of the cooperative spirit among the oil men in difference branches of the industry. He stressed the conditions which have brought about the unrest in the industry and then showed the necessity of bravely and frankly telling the country what the oil men have done, and are doing, to gain the confidence of the people. He said that the "hysteria" shown by the public some months ago was somewhat allayed and that everything indicated that all branches of the industry would function in a proper manner to the entire satisfaction of the public in general.

Mr. James also asked for each State association to collect information and data concerning the industry in that State so that the national organization may have at hand sufficient data to make a proper showing to the Government.

### New Officers Chosen

The nominating committee reported the following nominations: President, W. S. Bilby, B. & L. Oil Co., Fairbury; vice president, George Coryell, Coryell Oil Co., Lincoln; executive committee, G. A. Steele, Omaha; L. L. Coryell, Sr., Lincoln; and W. S. Bilby, Fairbury. These men were unanimously elected. C. M. Sutherland, the secretary-treasurer, was a "holdover" and the board of directors were all reelected.

F. A. Pielsticker of the Skelly Oil Co., and president of the Western Petroleum Refiners' Association, spoke on "Cooperation."

A. W. Kiefer, Meridian Sales Co., New York, presented the subject of reducing the dues from $3 to $2 per month. He said that there would be a great many more members come in if the dues were reduced. The question of dues was left to the board of directors with instructions to reduce them whenever the receipts were sufficient to care for the expenses.

The association decided to get out a weekly letter to all independent jobbers. Secretary Sutherland was instructed to hold five district meetings in the spring at various central points in the State.

Concerning the gasoline tax proposed as a "Good Roads" measure, the association took the position that if the people wanted more taxes, they should be permitted to vote them. The convention refused to go on record either for or against the proposed tax but expressions were made that should the tax be voted, it should be collected the same as the inspection tax fee when the car is unloaded, and that no exemptions should be made as to what use was made of the gasoline. It was decided to have the headquarters of the association at Lincoln during the session of the Legislature.

## TEST CITY ORDER TO BURY STORAGE TANKS

TOPEKA, Kans., Dec. 20.—The right of a city to require oil companies to bury storage tanks for gasoline and kerosene underground presented to the Kansas Supreme Court in the suit of the Cities Service Co. against the City of Marysville The issue is of such importance the League of Kansas Municipalities has special counsel participating in the case, and all of the big oil companies are watching the outcome.

A decision in favor of the city means the expenditure of millions of dollars in sinking storage tanks below the ground if the companies continue to maintain their storage equipment within city limits.

The Marysville ordinance requires all tanks of more than 500-gallon capacity be kept at least 3 feet under ground. The oil company contends this is an unreasonable requirement, holding these is no danger from exposed tanks, such as are in general use in the State.

It was argued before the court if the city ordinance is sustained all the companies either must move outside cities or bury their tanks. The cost and inconvenience of having their storage far from the business district or of burying the tanks would be an unreasonable burden on the oil companies, it was contended.

## ILLINOIS MARKETERS IN ANNUAL SESSION

CHICAGO, Dec. 20.—F. A. Muench of the Diamond Kerosene Co., Carlinville, Ill., was elected president of the Illinois Marketers Association at the annual meeting held at the Congress Hotel. Mr. Muench is one of the veteran independent jobbers of the State and has been active in both State and National associational work. He is a director of the National Petroleum Marketers Association. He succeeded J. L. Murray of the Cornbelt Oil Co. of Bloomington, Ill., who retired after haing served two years as president.

Owing to the difficulties of travel which delayed many members the morning session was abandoned. A luncheon was served at which the members and other oil men present were guests of the organization.

The meeting was called to order about 2:30 p. m. with approximately 30 members present. There was a general discussion of conditions in the distributing end of the industry. President L. V. Nicholas of the National Petroleum Marketers Association addressed the meeting briefly and informally regarding the present situation and the outlook. There was considerable discussion regarding the expenses of operation and particularly the investment in the distributing equipment which it was agreed was too great for the business done.

The marginal contracts as offered by several refiners and sales companies were discussed and it developed that several of the largest distributors had not yet signed their names to a contract for their gasoline supplies for 1925 and were still in doubt as to the policy of so doing. The general opinion seemed to be that a contract with a reliable source of supply was a good thing provided the terms were fair to both parties.

There was also some discussion, informal in part, of the furnace oil business and several expressed their views that with distillates at their present basis of refinery costs and the tank wagon price where it is there was little money in the business. There was considerable inquiry for gas oil as a substitute for distillates if it could be had with a zero cold test.

Other officers elected were vice president E. G. Cooper, Elmore Oil Co., Sycamore; secretary and treasurer, J. B. Kelly, Corn Belt Oil Co., Bloomington. Directors: J. L. Murray, Corn Belt Oil Co., Bloomington; E. C. Rosenthal, Apex Motor Fuel Co., Chicago; W. R. Nightingale, Eastern Oil Co., Watseka; C. S. McCornack, McCornack Oil Co., St. Charles; A. T. Locke, Locke Oil Co., Chicago; C. H. Armould, Armould Oil Co., Hamilton; B. H. Taggart, Sweeney Gasoline & Oil Co., Peoria; J. G. Bardill, Merchants Oil Co., Highland; S. L. Dunaway, Mitchell Oil & Gasoline Co., Marion. The Forest Independent Oil Co., Forest, was added to the list of members.

## OIL CITY REFINERIES INSPECTED BY N. P. A.

OIL CITY, Pa., Dec. 20.—Forty refiners from various parts of this section were here this week and inspected the two plants of the Pennzoil Co. as well as the plant of the Independent Refining Co.

The meeting was that of the manufacturing division of the National Petroleum division of the National Petroleum Association, which has eight departments of activity, including manufacturing. This division is in charge of P. S. Tarbox, of the Independent Refining Co., of this city.

At the November meeting which was held in Bradford it was decided to hold group meetings of superintendents and technical men. Four groups were established. The Bradford one is in charge of B. B. Stroud, of the McKean County Refining Co. The Warren group has Harry Peterson of the Seneca Oil Works as its chairman. W. S. Zehrung, of the Pennzoil Co. has charge of the Oil City group, and Harold Eaton of the Island Petroleum Co. of Pittsburgh was in charge of the Pittsburgh one. These groups are to have monthly meetings. The meetings in Pittsburgh will be on the third Tuesdays of each month and that in Bradford on January 7. At these meetings the problems of manufacture will be discussed.

In January Pittsburgh and Warren will take up filtration and Bradford will discuss steam and power efficiency. It is hoped by February to have all the groups discussing the same subject each month. It is planned to have real cooperation with the United State Bureau of Mines and the various societies which have an interest in oil refining problems and their solution. It was also suggested that the various refineries be inspected and this was the first inspection tour which had been arranged for the group. Through this means it was expected enthusiasm could be better developed and a clearer view obtained of what could be accomplished.

### Plants Visited

At the Independent Refining Co.'s plant special interest was exhibited in the continuous distiliation process for Pennsylvania oil and the Conraty cracking plant. This concern is one of the three operating on Pennsylvania oil which are using continuous stills.

Following the inspection of the Independent plant, a dinner was held at the Y. M. C. A. at which L. D. Fulton reported on his visit to the Bureau of Mines plant at Bartlesville, Okla. He told of the manner in which this branch of government could be cooperated with and explained how anxious the federal workers were to aid. He said it was

(Continued on Page 118)

# Natural Gasoline

The Holiday Season gives us an opportunity to extend Christmas Greetings and to express appreciation to our many friends and customers for the pleasant business relations enjoyed during the past year.

Your confidence in us and your continued patronage over the year 1924 have enabled us to enjoy the biggest volume of business in our history or in the annals of the Natural Gasoline industry.

We thank you and extend to you our best wishes for a Merry Christmas, and a Happy Prosperous New Year.

# CHESTNUT & SMITH
## CORPORATION
GENERAL OFFICES-CHESTNUT & SMITH BLDG.- TULSA, OKLA.

# Future Trend in Cracking Processes

## Market Conditions May Bring About Renewed Interest In Vapor-Phase and Lower Pressure Equipment

By H. R. Brownlee*
*Consulting Petroleum Technologist, Pittsburgh, Pa.*

Time and chance ever play an important part in the development of technology as well as of the human race itself. A great mind of one generation evolves a process that, being ill timed, produces nothing, but the same idea later revived wins fame and fortune for the one who may independently hit upon the same thing or else through his painstaking research may brush away the dust of the passing generations and discover the teachings found thereunder.

Such is the history of the cracking of petroleum; doubtless invented before a propitious time, when the need came there were those with the ability and backing to take up the problem and advance it far beyond the dreams of the original experimenters. The manner in which it was first developed commercially and the type of equipment used are also due largely to this same element of chance. Being developed by an organization accustomed to using tank stills for all distilling operations under atmospheric pressures and return tubular boilers for producing steam, what was more natural than that a still be designed heavy enough to withstand the higher pressure and equipped with means for regulation of it? On the other hand, had this same company been accustomed to the use of tube topping stills, my guess is that the Burton still would have been built of tubes with shells only for receivers. As a matter of fact, the later Burton-Clark still is of tube construction and the tendency is almost entirely in that direction.

### First Carbon Troubles

If the first carbon troubles with the shell-type Burton still had not been promptly solved by the efficient work of Doctor Humphreys, the shell type would doubtless have been discarded before the first battery was built. It seems to be the opinion of many conversant with conditions that probably no more shell-type stills will be built by the larger companies, although on account of their simplicity of operation they may be utilized with advantage by smaller organizations.

Now that the tendency is almost wholly toward tube stills and furthermore to decrease the sizes of tubes in these, may we not also soon see a revival of vapor-phase cracking? It is the opinion of several petroleum technologists of my acquaintance that the time is near when vapor-phase systems will be revived and operated profitably. As a matter of fact, a number of installations are operating at the present time. One condition is especially favorable toward such a revival—namely, the fact that unsaturated hydrocarbons are not now looked upon as something to be shunned and removed before using the gasoline. More people are learning that unsaturated hydrocarbons are actually a benefit to the smooth operation and power of the motor.

The old bugaboo of resins plugging the gas lines in our cars and doing other disreputable things is largely dispelled. When this does happen, the trouble is easily remedied. With various condiments of one sort and another for putting pep in our motors, we are getting over our insistent demand for water-white gasoline along with the nonsense about jet black tires for the cars.

### Vapor-Phase Process

I believe it will come to be recognized that excessive pressures are entirely unnecessary even for cracking kerosene distillates and if no other existing equipment can be satisfactorily utilized a properly designed and operated vapor-phase process will eliminate any necessity for resorting to high pressure. Experience has shown that there is certainly no justification for its use for heavier distillates or residues. A vapor-phase equipment should be less expensive for the same throughput than an excessively high-pressure equipment and besides will be safer to operate. Probably a vapor-phase process comprising a combination, something on the order of a tube-and-tank equipment, may be a development of the near future. The idea of an efficient catalytic method of cracking is also something with which to conjure. It would certainly be a bit risky to say it is an impossibility that someone may find a catalyst for cracking heavy oils so efficiently that our present methods will appear as crude as an oxcart beside a Ford coupe.

Advantage will also be taken of the fact that similar to many, if not most, chemical reactions, the cracking process is reversible to an extent at least. In any cracking process a certain amount of unsaturated hydrocarbons is produced. Low-temperature processes such as the Fleming and the Burton produce the least unsaturated hydrocarbons, while the vapor-phase process produces a much greater percentage. It has been established that by a catalytic method these unsaturated hydrocarbons can easily be polymerized to form high viscosity lubricants of very low-cold test. A valuable characteristic of such a lubricant is its stability in an internal combustion motor and hence the absence of a tendency to carbonize the cylinders. The value of such an oil, especially for airplanes, has already been demonstrated and would seem to require little argument relative to its use in automobiles. However, this idea is advanced in spite of statements by eminent authorities on lubrication, who assure us that with all their experience with motor lubricants one lubricating oil is just as good as another, if not better.

In the writer's opinion, the oil refinery of the future will be built around the cracking plant which will have a capacity ample to handle all the crude and the present crude still will be largely obsolete.

Ultimately almost all crudes will look alike to the refiner and by processes of cracking and polymerization and other chemical means he can make whatever product he requires. Certain fractions of high-grade crude doubtless will be extracted as such as long as such material can be found, but with newer processes and improvements that can be developed when required, the refiner of the coming decade will face the future of type of crude available without fear or favor.

In the December 4 issue of The Oil and Gas Journal the writer discussed several cracking processes that are largely used in the industry. These included the Burton and its modifications, the Cross, the Dubbs and the Fleming processes. While it is frankly impossible to treat all of the various systems in comparable detail, it will perhaps be worth while to discuss briefly a number of other processes that have attracted the attention of the industry.

The Isom equipment used by the Sinclair Refining Co. is the invention of Edward W. Isom. Gas oil or other similar distillate is heated under pressure in a still of special design having vertical tubes. The products are condensed under pressure. The oil is circulated as the result of heating and also by a propeller placed in the supply pipe outside the furnace. The vertical heating tubes are connected by manifolds. The hot oil leaving the tubes circulates to the still or reaction chamber that is partly filled with the hot liquid. The liquid hydrocarbons volatilize here and pass through a dephlegmator to the condenser. Little carbon is said to be deposited on the heating tubes on account of the rapid circulation of the oil and also because the tubes are vertical. The outer and lower branches of the manifolds are closed by movable plugs for convenience in cleaning. The equipment is operated continuously over a considerable period of time.

The Holmes-Manley cracking equipment is controlled by The Texas Co., which also controls the Hall process and the Gray aluminum chloride method and equipment devised by J. H. Adams.

The Holmes-Manley process has been in operation at Port Arthur, Tex., since December, 1920. The equipment is operated in batteries of four stills each 3 feet in diameter and 40 feet high and provided with a scraper arrangement for removing carbon from the sides. The operating pressure is about 175 pounds in the first equipment. Later equipment designed for 500-pound working pressure has been installed. Of the total oil charged 27 per cent is said to be converted into gasoline passing the New Navy specifications.

### Tube-and-Tank Equipment

Among the more recent processes to attract attention is the tube-and-tank equipment of the Standard Oil Co. of New Jersey, which was invented by Carleton Ellis. In this, the oil is heated to from 750 to 900 degrees Fahrenheit by passage through 130 4-inch tubes set in a furnace. The oil is discharged into a pressure still 6 feet in diameter and 40 feet long, which is set in the furnace above the tubes. The walls of this vessel are approximately 2 inches thick. A pressure of 250 to 350 pounds per square inch is held on the pressure still or the reaction chamber. The pressure relief valve is located at the end of the reaction chamber opposite that which the heated oil enters. A number of units are in operation in plants in the United States and foreign countries. It is claimed that the tube-and-tank process will handle all common types of distillate, heavy crudes and residual fuels. A particular merit of the equipment is the claim to give the maximum of safety for a commercial high-pressure cracking operation.

Among the rather widely advertised cracking methods of a number of years ago were those of Hall, Rittman and Greenstreet.

The Hall equipment was invented by William A. Hall and about 10 years ago was experimented upon quite extensively both in the United States and in England, chiefly for the purpose of making benzol and toluol. A number of installations, however, were made for the production of gasoline. In this equipment the oil is first vaporized in a 1-inch tube and preheated in a flue by the waste heat of the products of combustion in the furnace so that it enters the cracking tubes at a considerable temperature and at a high rate of speed. The vapors issuing from the heating coil pass into a vertical pipe 12 inches or more in diameter and about 12 feet high and impinge against a baffle in the large pipe so that the speed of flow is incidentally reduced from about 6,000 feet per minute to a very nominal rate. This converts the energy of speed into that of heat and the temperature actually in-

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*Reprinted from Chemical and Metallurgical Engineering.*

## LARGE SAVING IN REFINING CLAIMED FOR CATALYTIC PROCESS

A new catalytic process which it is claimed will save from 20 to 30 cents a barrel in the treatment of cracked gasoline has been placed on the market by its inventor, Thomas T. Gray of Elizabeth, N. J. The saving over other methods of treatment, it is claimed, is derived from the cheapness of direct operation and lower direct and polymer losses.

The accompanying illustration of the laboratory apparatus used, shows that in principle the new process is very simple. "The vapors pass up through an annular space, B, surrounding a tube, C, about 2.5 cm. (1 inch) in diameter and 3.8 cm. (1.5 inches) long, which holds when filled about 25 grams of 60 to 90-mesh Fuller's earth. They then pass down through the catalyst, which is held in place in the tube by a wire screen or some steel wool supported by a glass shelf, D, and finally through an opening in the shelf into a separating chamber, E, from which a small tube F, provided with a trap to prevent vapors from passing, removes any condensed liquids, while another tube, G, sealed into the side of the chamber, acts as a vapor outlet. The vapors are then connected to a condenser. The inlet tube acts also, in the laboratory device, as a reflux line for the outer shell."

### Operation of Apparatus

In other words, the vapors from the cracked distillate ascend through an experimental glass tower, warming, as they rise, a catalyst of Fuller's earth and gradually moistening and blackening it as they fall. When the catalyst is fully wet it discharges into the space E a liquid that is orange-red in color, and which is trapped off through F while passing off through the outlet G a vapor that is crystal white.

The orange-red liquid contains the polymers; the vapors passing through G and subsequently condensed is pure gasoline.

For this orange-red liquid it is claimed that it results from polymerization of the diolefines only; and that it is due to the production within a few seconds of the compounds which ordinarily form in gasoline only through the process of considerable time, and which tend to color it or to form gum.

Herein, according to the inventor, is the magic of the new process; for it does for these compounds which form polymers what sulphuric acid treatment fails to do; does it without loss of, or injury to other constituents which are essential to first grade gasoline, and does it at a loss of less than 1 per cent as against 3 to 5 per cent in acid treatment.

What this means commercially, if results achieved by polymerizers now in commercial operation are to be regarded as a criterion, is a treated pressure distillate that is crystal white; that is stable as to color; that yields approximately 8 per cent more gasoline than

(Continued on Page 94)

# TANKS

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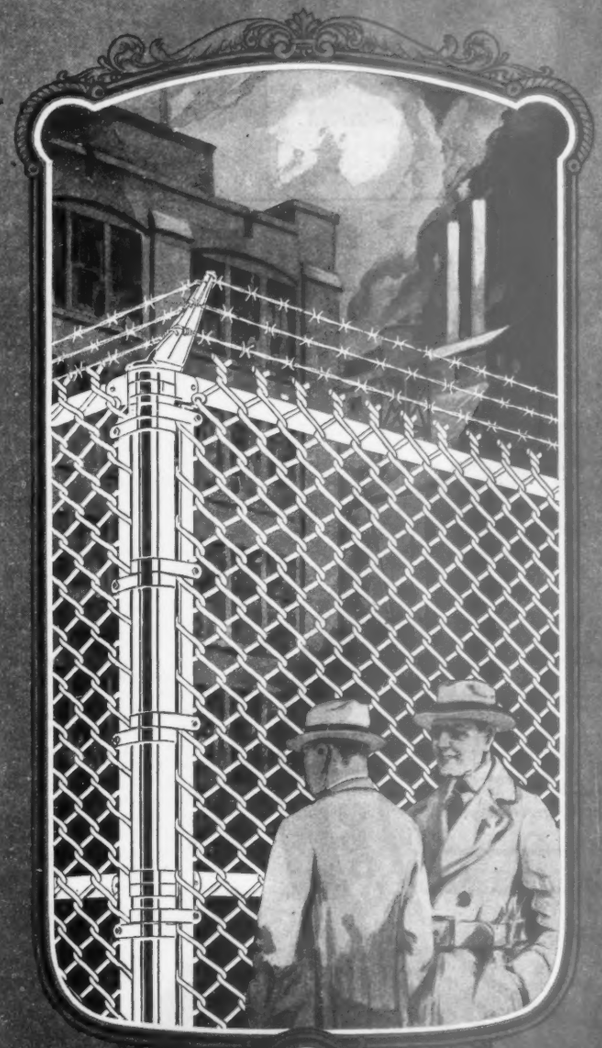

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PROPERTY PROTECTION PAYS

# WEATHER CUTS DEMAND IN CHICAGO

## Prices Suffer to Some Extent. Pressure to Sell Now on Marketers With Refiners Having Comparatively Little in Stock. Kerosene Continues to Drag. Distillates Moving. Fuel Oil Quiet. Lubricants More Hopeful. Tank Wagon Unchanged

By J. B. Waldo

CHICAGO, Dec. 20.—There has been little activity in the petroleum offices during the past week and at the close the lack of demand was intensified by the extremely cold wave which completely cut off communication by telegraph or telephone. It probably made little difference in the business doing for the territory around Chicago and practically all over the West and Northwest suffering from severe storms for a couple of days before the cold spell struck this city Thursday night.

There have been a number of jobbers in the city, some to do their Christmas shopping and some on business errands but they were not present buyers of gasoline to any extent. The usual statement is that they have enough to last for some time and many have more than they are likely to distribute under the usual winter conditions for a month. One great subject of discussion with nearly all jobbers is marginal contracts. The refiners claim they have renewed the greater part of their last year's contracts but the jobbers tell another story. Several large distributors stated personally they had not signed a contract for the coming year and intimated the terms offered were not attractive. They want a wider margin on the basis that they have to have it to continue to do business. The wide margins and large profits made by distributors have, in a great many cases, been expended in new outlets or new equipment and they have worked into a business that requires a wide margin to carry on.

However, there are a good many who have signed and some of the juiciest former contracts have renewal clauses and if the jobber failed to renew there he was under some form of delusion regarding the industry and what is likely to happen next year. Much of the gasoline in store in the jobbers' tanks has cost much less than it could be bought for today in the spot market for it was accumulated under contracts that made a price that was very attractive and which no jobber who could have resisted. The outlook is good for a regular increase in the demand next year but the facilities for handling that increase are already more than adequate and jobbers may be glad the present contracts are not such as to invite a flock of new competitors into the business. There will be enough new ones without any invitation.

### Demand Light.

The demand for gasoline has been very light. Prices have suffered to some extent. Some refiners have held to their old quotations, some have made slight declines, many have refused to name any price for future or even immediate business preferring to let the marketers get rid of their gasoline as they were bound to do. The pressure to sell right now is on the marketer, not the refiner, for if the latter is not sold ahead he has little in stock compared with the jobbers and it would be useless for him to try and meet the current prices.

The bulk of the business in U. S. Motor gasoline at the close of the week was done at 8 to 8½ cents with occasional sales of cars, usually in transit or on the tracks at one-eighth to one-quarter of a cent less. The feeling was that these prices might be shaded before the end of the month for the marketers can still average a profit for the month and move their gasoline, that is, what they have left, of the December purchases, as low as 7½ cents One of the largest marketers stated he believed U. S. Motors gasoline would sell at 7½ cents at the close of the month but he was bullish on gasoline on the long run and was to go long. The latest reports available from Group 3 were of a soft market but most refiners holding for better than the marketers' prices, with the North Texas and Louisiana refiners evidently in better shape than in Group 3, judging by the quotations which were higher for all products. The higher tests suffered in line with the 58-60 gravity. Natural gasoline was firmly held. In fact, there was little activity except that shown by some of the marketers and dealers in getting rid of December gasoline.

### Kerosene Sags.

Kerosene continues to drag and sag. There are any number of explanations offered but they do not seem really to answer the question of what has become of the winter demand. May be it is not so far different from what it was only it has not increased in line with the business done in other products. The prices have declined a little and it is hard to sell 41-43 at over 4 3-8 cents, although there are some who still quote 4½ cents.

### Distillates Moving.

Distillates are beginning to move and about the ony word that has come since the colder weather set in has been to hurry the distillates. The local demand is reported to be large and very active and the recent estimate of 100,000,000 gallons as required by the local distributers is stated by some to be much too low. It may be but then it may not. The highest estimate and this is not conservative is 40,000 domestic oil burners and at 3,000 gallons per burner the total could not be over 120,000,000 gallons and either several people are mistaken or 3,000 gallons is a liberal estimate for heating an ordinary six or seven-room house in this climate. A great many of the newly built homes in the residential districts and the suburbs have had oil heating plants installed as built and this complicates listing of burners installed. The greates ttrouble is to get the manufacturer to give any information. Apparently they think if they tell how many they have installed some other manufacturer will say he has installed twice as many and claim that his is therefore twice as good.

The jobbers here are making the discovery that there not the profit they seemed to think in the furnace oil business. They want a higher price from the customer and failing in that they are looking for a cheaper oil and some believe they have found it in a zero test gas oil. The latter is not plentiful and will soon demand a distillate price. The out of town jobbers say a price of 8½ to 9 cents may do in the city where the number of burners is thousands but it will not do in the country where there is a comparatively limited number of them. One of the troubles with the average oil man is that he is always raising his prices and driving customers to use some substitute. If all the manufacturers plants that have tried fuel oil used it there would be no surplus but the demand is almost automatically regulated. As the demand increases the supply is held back and the price advanced and the users turn to coal. Right now there are plants being turned over to coal that would pay the price of the crude for the oil. The same thing will go on in the distillate business. Consumers used to buy their winter's supply at 6½ cents. Now it is 8½ to 9 cents and one large distributor has increased his price to 9 to 10 cents. The present market is firm, with refiners and marketers suggesting that prices will be advanced so better buy now while it is cheap.

### Fuel Oil Quiet

Fuel oil is quiet right now with consumers refusing to pay more than $1.15

(Continued on Page 118)

# FIRMNESS IN EASTERN MARKETS; HIGHER GASOLINE PRICES EXPECTED

By N. O. Fanning

NEW YORK, Dec. 20.—Firmness prevailed in the eastern refined oil markets during the past week. Advances of from 1 to 2 cents occurred in lubricating oils, bringing quotations on some grades to the highest since 1920. Extra light filtered cylinder oil (600 steam refined) is now quoted at 46½ cents per gallon for export, light filtered at 40½ and bright stock at 50½ cents.

Bayonne refinery prices are also strong, spot gasoline being advanced to 13¼ cents per gallon, Diesel oil to $2.10 per bbl. and gas oil to 5¼ cents per gallon.

Although the development of the Wortham Field has created rather widespread conservatism throughout the oil business the fact cannot be lost sight of that the situation in the eastern oil markets is bright. Refiners are not overstocked with crude and are increasing their purchases all along the line. Most of this buying is taking place in the Mid-Continent and Gulf Coast Fields, and although much of it represents contracts for 1925 delivery, current deliveries are considerably larger than those during October.

The basis for optimism in this part of the country is the unusually heavy consumption of gasoline, lubricating oils and fuel oils, all coming at the same time. The result is prices are strong. Fuel oil, gas oil and lubricants have already advanced substantially, and it is expected gasoline will soon follow. Of course gasoline export prices have already advanced about 1 cent per gallon.

Present conditions in the eastern markets, according to the best information obtainable, lead to the belief that considerably higher prices for gasoline will be reached next year. This is in contradiction to the theory often propounded that fuel oil would be the determining factor in price of gasoline, as the tendency toward higher fuel oil prices is already discouraging its use.

### Turn From Fuel Oil

Although $3 per barrel for bunker fuel oil seems high compared with the current price of $1.80 at this port, prediction that it would advance to that figure was made to the writer by an authority conversant with the general situation. The same authority believes the advance will not only discourage its use but many plants now using fuel oil will turn back to coal.

Six steamships operated by Moore & McCormick in the Commercial Line intercoastal service, are to change back from oil to coal burners on account of the current high price of fuel oil compared with that of coal. The burners in the vessels were installed on a convertible basis, and the changes will not involve any serious difficulties. The first of the conversion jobs, that of the "Commercial Pathfinder," is now under way.

A. B. Moore, president of Moore & McCormick, says regarding the situation: With coal selling for $4.75 to $5.00 per ton at Hampton Roads, it is not economic to use oil costing more than $1.50 per barrel, and the price on the Atlantic Seaboard at present is $1.80. Of course ships in intercoastal trade can still save money by burning oil because they can fill their bunkers on the Pacific Coast at $1.40 per barrel."

It is estimated by going back to coal a saving of $75 per day can be affected on each ship, making allowance for the employment of four to eight additional firemen on each vessel, which is a considerable item in these days of low freight rates and scarcity of cargo.

### Furnace Oil Steady

There has been no material change yet in the price of furnace oil in this territory, but it is believed it will move in sympathy with fuel oil and gas oil. The demand is up to expectations, but due to warm weather a considerable increase is expected later when winter weather sets in in earnest.

The figures given below are furnished by a maker of a well-known oil burner used for domestic heating. They show the present cost and heat value of the various grades of oil used in most of the various makes of oil burners:

| Grade of oil— | Heat units per gallon | Average cost per gallon |
|---|---|---|
| Kerosene | 132,858 | $0.12 |
| Distillate | 136,887 | .10 |
| Gas oil | 138,926 | .09 |
| Fuel oil | 141,790 | .08 |

It is also stated that a gallon of fuel oil weighs nearly a pound more than a gallon of kerosene. The gravity of the various oils mentioned above probably ranges from 28 gravity up to 44.

### Exports Decline

The movement of oil for export from the port of New York last week was the smallest in many weeks. The decline is believed temporary, following heavy shipments during four or five previous weeks.

Inquiries from abroad for oil products, especially lubricants and wax, continue large, and several vessels have been chartered to carry oil from New York to European ports during January and February.

The American tanker City of Freeport has been chartered to carry lubricating oil from New York to Germany, January loading, at 29s per ton. The capacity of the vessl is about 1,949,000 gallons.

Other fixtures include:

Tanker Oilfield (British), 3063 tons, refined petroleum, Gulf ports to Continent-United Kingdom, January loading, 32s 6d.

Tanker Kassala (British), 2,561 tons net, December-January loading, 130,000 cases of oil, Gulf ports to the River Plate, at 22 cents per barrel, one port.

Three United States Shipping Board tankers have been chartered from the Gulf to Fall River, at 28½ to 29½ cents per barrel, December-January loading.

### Competition Abroad Keen

Although American exporters look for a record business abroad next year, competition is expected to be keener than ever in the export field. It is known Russia is making strong efforts to connect with foreign buyers of oil products, especially in the Near East and in Europe. That country has a formidable supply of crude and refined petroleum in storage awaiting shipments, and is also increasing production considerably.

Persia offers another threat to American marketers of oil products abroad. The fact that production there next year may increase to something like 75,000,000 bbls., or a gain of at least 50 per cent over 1924, speaks for itself.

An example of the comparative situation in the marketing of oil products in Great Britain is contained in figures of imports by companies during one week in November, as follows:

| Company— | Gallons imported |
|---|---|
| *Shell Marketing Co. | 7,700,000 |
| *Anglo-Mexican Petroleum Co. | 4,800,000 |
| Medway Oil & Storage Co. | 2,800,000 |
| *Shell-Mex., Ltd. | 2,300,000 |
| Scottish Oils, Ltd. | 2,300,000 |
| National Oil Refineries | 2,400,000 |
| Anglo-American Oil Co. | 2,000,000 |
| Vacuum Oil Co. | 1,500,000 |
| C. T. Bowring & Co. | 700,000 |
| British Mexican Petroleum | 1,800,000 |
| United Caucasian Oil Co. | 400,000 |
| Total | 28,800,000 |

*Subsidiaries of Dutch-Shell combine.

The oil was imported from the Atlantic, Gulf and Pacific Coasts of the United States, from Mexico, Russia and the Far East.

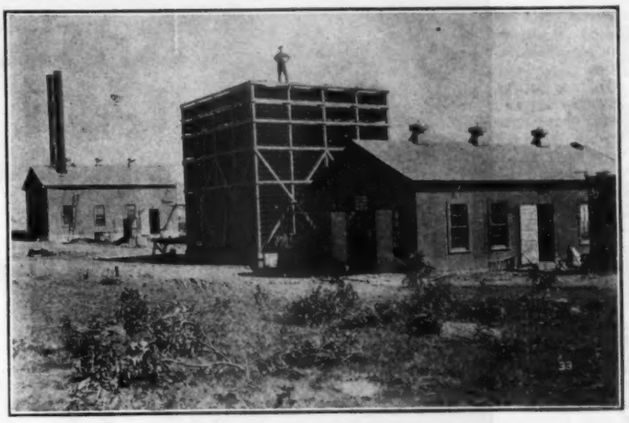
### Principal Exports

The following table shows principal exports of petroleum and petroleum products from New York reported during the past three week (figures in gallons unless otherwise noted):

| Item and how shipped— | Week-ended Dec. 17 | Dec. 10 | Dec. 3 |
|---|---|---|---|
| Gasoline— | | | |
| Bulk | ..... | 2,250,554 | ..... |
| Cases | 330,000 | 1,908,690 | 1,533,400 |
| Kerosene— | | | |
| Bulk | ..... | 3,993,042 | ..... |
| Cases | 628,420 | 4,144,040 | 2,156,720 |
| Gas oil— | | | |
| Bulk | ..... | 186,764 | 2,402,422 |
| Lubricating oil— | | | |
| Barrels | 539,405 | 1,105,188 | 1,291,082 |
| Cases | 43,650 | 67,930 | 134,770 |

(Continued on Page 118)


ENGINEERS & CONTRACTORS IN NATURAL GAS AND OIL



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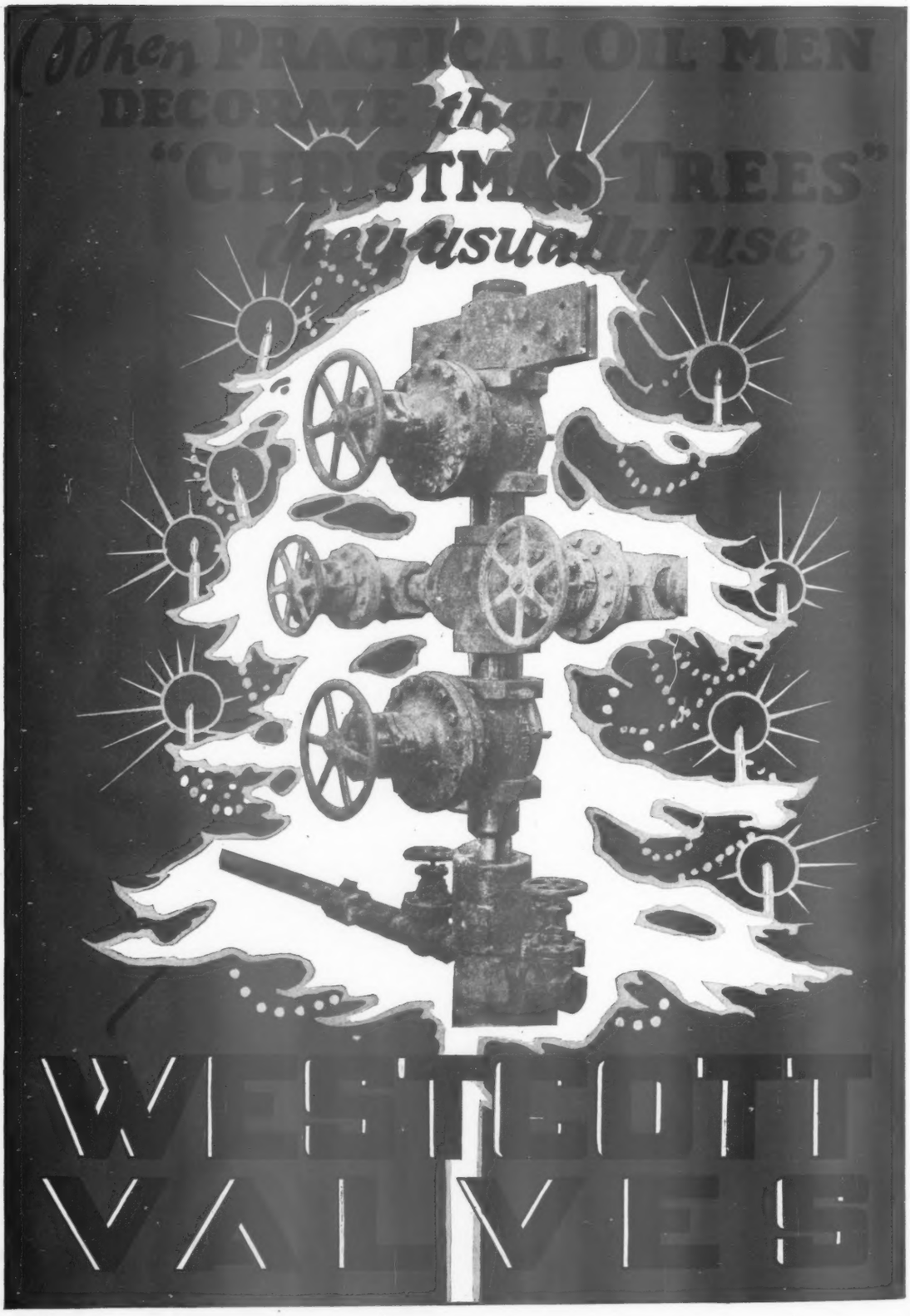

When PRACTICAL OIL MEN
DECORATE their
"CHRISTMAS TREES"
they usually use
WESTCOTT
VALVES

# OSAGE SALE A DULL AFFAIR AND WAS ALL OVER WITHIN TWO HOURS

Fourteen tracts west of Range 8 in the Osage Reservation in Oklahoma, brought $1,003,800 and 41 tracts on the east side brought $83,500 at the auction sale of Osage leases on Thursday, December 18. The sale was held in Pawhuska, and was attended by the smallest number of oil men that have graced an Osage sale in years.

The west side tracts, comprising 2,240 acres, brought $448 per acre and as seven of the tracts were wildcats this average may be considered high and the Indians have good reason to be pleased. Two tracts in the Burbank area brought $335,000 each or an average of $2,094 per acre, and it is very doubtful if any two 160-acre pieces in any other field in the United States with the same estimated potentiality for net production would bring as large a sum.

Little interest was displayed in the sale. One hundred and thirty-three tracts offered were passed as there were no bidders, the Interior Department's ruling that nothing less than $500 would be accepted as a first bid deterring operators from investing any bonus money whatever in tracts that did not look at all inviting. The department also made it known that operators purchasing tracts would be required to drill one well within 12 months, and this discouraged bidding on any but tracts that looked more than ordinarily promising.

The whole sale was concluded in two hours. It has often taken seven hours to dispose of the tracts offered, but Colonel Walter, the auctioneer, met with so much silence as tract after tract was put up for sale that it was an agreeable surprise to him when a voice broke the monotony by announcing a bid.

On the east side only four quarter sections brought more than $5,000. No. 35, the northwest quarter of Section 28-20-10, was sold to Kirol Helm and others for $5,100. The Gypsy Oil Co. bought tract 42, the northeast quarter of Section 14-21-10, for $19,500. The southeast quater of Section 12-24-8, Tract 119, went to the Atlantic Oil Producing Co. at $6,300. The Mid-Kansas Oil & Gas Co. was the highest bidder in the competition for tract 127, the southeast quarter of Section 20-25-8 and got it for $18,000. The possibility of rich Wilcox sand production from these properties stimulated the bidding and brought the good prices at which each of them was sold.

Six tracts were offered on the edge of the Burbank producing area and the combined acreage brought $997,500, an average of $1,039 per acre. The Skelly Oil Co. was awarded the southwest quarter of Section 2-27-5 for $10,500; the Phillips Petroleum Co. bought the northeast quarter of Section 11-27-5, and the southwest quarter of Section 12-27-5, for $335,000 each; the Carter Oil Co. the northeast quarter of Section 20-26-6 for $42,000; the Lewis Oil Co. the northeast quarter of Section 21-26-6 for $99,000 and the Carter Oil Co. the northwest quarter of Section 21-26-6 for $176,000.

The tracts disposed of, purchasers and bonus prices received were as follows:

| Tract No. | Description | Acreage | First Bid | Bonus | Purchaser |
|---|---|---|---|---|---|
| 2 | SE 6-28-12 | 160 | $ 500 | $ 500 | Oswego Petroleum Co. B. J. Rainey, E. H. Byerly and Earl Beard. |
| 10 | NE 30-21-11 | 160 | ... | 1,100 | Devonian Oil Co. |
| 11 | NW 30-21-11 | 160 | 500 | 500 | K. R. Holmes and others. |
| 14 | SE 13-22-11 | 160 | 500 | 500 | J C. Stine. |
| 15 | NE 24-22-11 | 160 | 500 | 500 | J C. Stine. |
| 26 | SW 28-28-11 | 160 | 500 | 2,100 | Duffield & Howard. |
| 27 | NW 34-28-11 | 160 | 500 | 2,300 | Duffield & Howard. |
| 28 | SW 34-28-11 | 160 | 500 | 500 | Duffield & Howard. |
| 32 | SW 4-20-10 | 160 | ... | 500 | K. R. Holm and others. |
| 33 | SW 13-20-10 | 160 | 500 | 800 | E. P. Harwell. |
| 34 | NE 14-20-10 | 160 | 500 | 500 | Sand Springs Home. |
| 35 | NW 28-20-10 | 160 | 500 | 5,100 | K. R. Holm and others. |
| 36 | SW 28-20-10 | 160 | 500 | 3,500 | Echo Oil Co. |
| 37 | Fr. N½ 29-20-10 | 65.15 | 500 | 500 | K. R. Holm and others. |
| 38 | SE 29-20-10 | 160 | 500 | 500 | Echo Oil Co. |
| 39 | Fr. SW 29-20-10 | 64.58 | 500 | 500 | K. R. Holm. |
| 41 | SW 8-21-10 | 160 | 500 | 500 | N. J. Knupp. |
| 42 | NE 14-21-10 | 160 | 500 | 19,500 | Gypsy Oil Co.. |
| 43 | NW 22-21-10 | 160 | 500 | 1,100 | Dan Bunnell. |
| 44 | SE 29-21-10 | 160 | 500 | 500 | Cosden Oil & Gas Co. |
| 45 | NW 10-22-10 | 160 | 500 | 2,200 | Riverland Co. |
| 46 | NW 18-28-10 | 160 | 500 | 900 | T. J. Ellis and Harry M. Gibson. |
| 70 | NW 6-21- 9 | 160 | 500 | 500 | D. V. Flight. |
| 72 | NW 7-21- 9 | 160 | 500 | 500 | Creo Oil Co. |
| 73 | NW 14-21- 9 | 160 | 500 | 3,600 | Ohio Osage and Clint Moore. |
| 74 | SW 14-21- 9 | 160 | 500 | 1,000 | E. P. Harwell. |
| 75 | NE 3-22- 9 | 160 | 500 | 500 | Ernest McCarty. |
| 76 | NW 3-22- 9 | 160 | 500 | 500 | Leo Kaufman. |
| 79 | SW 28-25- 9 | 160 | 500 | 1,000 | Phillips Petroleum Co. |
| 86 | SW 1-27- 9 | 160 | 500 | 700 | Wertern American Oil Co. |
| 94 | NE 32-27- 9 | 160 | 500 | 500 | Phillips Petroleum Co. |
| 118 | NE 12-24- 8 | 160 | 500 | 500 | Atlantic Oil Producing Co. |
| 119 | SE 12-24- 8 | 160 | 500 | 6,300 | Atlantic Oil Producing Co. |
| 127 | SE 20-25- 8 | 160 | 500 | 18,000 | Mid-Kansas Oil & Gas Co. |
| 128 | NW 31-25- 8 | 160 | 500 | 700 | A. G. Oliphant. |
| 139 | SW 31-25- 8 | 160 | 500 | 1,600 | Ernest McCarty. |
| 139 | NE 21-26- 8 | 160 | 500 | 900 | The Texas Co. |
| 145 | NE 14-29- 8 | 160 | 500 | 500 | Western American Oil Co. |
| 166 | NW 14-29- 8 | 160 | 500 | 500 | Western American Oil Co. |
| 167 | SE 14-29- 8 | 160 | 500 | 500 | Western American Oil Co. |
| 168 | SW 14-29- 8 | 160 | 500 | 500 | Western American Oil Co. |
| | Forty-one tracts | 6,369.73 | | $ 83,500 | |
| | **Tracts West of Range 8** | | | | |
| 176 | NW 18-29- 7 | 160 | 500 | 1,000 | Twin State Oil Co. |
| 176 | SW 18-29- 7 | 160 | 500 | 1,100 | Twin State Oil Co. |
| 177 | NE 20-26- 6 | 160 | 500 | 42,000 | Carter Oil Co. |
| 178 | NE 21-26- 6 | 160 | 500 | 99,000 | Lewis Oil Co. |
| 179 | NW 21-26- 6 | 160 | 13,000 | 176,000 | Carter Oil Co. |
| 180 | SW 2-27- 5 | 160 | 1,000 | 10,500 | Skelly Oil Co. |
| 181 | NE 11-27- 5 | 160 | 5,000 | 335,000 | Phillips Petroleum Co. |
| 182 | SW 12-27- 5 | 160 | 50,000 | 335,000 | Phillips Petroleum Co. |
| 183 | NE 3-28- 5 | 160 | 500 | 900 | George S. Bole. |
| 184 | SE 3-28- 5 | 160 | 500 | 1,300 | George S. Bole. |
| 185 | NE 20-25- 4 | 160 | 500 | 500 | Ernest McCarty. |
| 186 | NW 20-25- 4 | 160 | 500 | 500 | Western American Oil Co. |
| 187 | SE 20-26- 4 | 160 | 500 | 500 | Western American Oil Co. |
| 188 | SW 20-25- 4 | 160 | 500 | 500 | Ernest McCarty. |
| | Fourteen tracts | 2,240 | | $1,003,800 | |
| | | 8,609.73 | | $1,087,300 | |

**STATEMENT OF INDIVIDUAL OSAGE LEASE SALES**
**Showing Date of Sale, Total Acreage Offered, Total Acreage Sold and Total Amount Realized as Bonus**

| Osage Sale No. | Date | Acreage Offered | Acreage Sold | Total Amt. of Bonus |
|---|---|---|---|---|
| 1 | November 11, 1912 | 107,594 | 24,541 | $ 39,436.00 |
| 2 | September 29, 1913 | 12,049 | 10,132 | 498,182.58 |
| 3 | April 30, 1916 | 17,280 | 14,377 | 2,057,600.00 |
| 4 | June 20, 1916 | 3,020 | 2,482 | 1,169,280.78 |
| 5 | May 31, 1917 | 9,120 | 8,160 | 1,947,600.00 |
| 6 | November 12, 1917 | 20,621 | 19,869 | 1,677,200.00 |
| 7 | February 14, 1918 | 32,160 | 25,440 | 1,275,500.00 |
| 8 | May 16, 1918 | 51,400 | 38,980 | 1,180,575.00 |
| 9 | November 9, 1918 | 43,040 | 34,720 | 3,350,200.00 |
| 10 | March 5, 1919 | 21,000 | 20,520 | 2,790,925.00 |
| 11 | June 6, 1919 | 39,251 | 39,451 | 3,884,925.00 |
| 12 | October 6, 1919 | 35,310 | 34,670 | 6,161,500.00 |
| 13 | February 3, 1920 | 31,613 | 30,173 | 3,056,950.00 |
| 14 | May 18, 1920 | 31,783 | 31,303 | 2,851,900.00 |
| 15 | October 12, 1920 | 36,677 | 36,877 | 3,993,750.00 |
| 16 | June 14, 1921 | 26,588 | 25,918 | 4,559,100.00 |
| 17 | December 12, 1921 | 36,414 | 35,665 | 7,261,600.00 |
| 18 | March 2, 1922 | 37,184 | 33,467 | 3,949,950.00 |
| 19 | June 28, 1922 | 34,660 | 33,220 | 10,389,700.00 |
| 20 | January 18, 1923 | 34,073 | 24,231 | 6,215,700.00 |
| 21 | April 5, 1923 | 33,790 | 23,640 | 8,029,100.00 |
| 22 | March 18-19, 1924 | 100,305 | 49,416 | 14,193,800.00 |
| 23 | June 30, 1924 | 19,945 | 11,465 | 2,263,200.00 |
| 24 | December 18, 1924 | 29,890 | 8,610 | 1,087,300.00 |
| | Total | 844,967 | 616,327 | $94,280,424.36 |

# FUTURE TREND IN CRACKING PROCESS

(Continued from Page 88)

creases about 30 degrees C. notwithstanding the reduction of pressure from 70 pounds to about atmospheric.

This equipment has been operated from a slight vacuum up to about 1,500 pounds, but 75 pounds is said to be most practicable. In this country, The Texas Co. took over the equipment and started a 500-bbl. plant in November, 1916. For gas oil or low-grade kerosene, a yield of about 40 per cent of gasoline is obtained in one passage through the apparatus, but large gas production results. The coils in this plant consist of 640 feet of 1-inch cold-drawn steel tubing. The operation of the equipment apparently did not prove profitable.

**Rittman Equipment**

The Rittman cracking equipment for a time received more public attention than any cracking process so far developed. Dr. Walter F. Rittman developed his method and equipment on a small scale while at Columbia University and with the Bureau of Mines. It was considered a good possibility, especially since toluol as well as gasoline could be produced, and this was at the time when toluol was sorely needed in the early years of the war. Accordingly the inventions of Dr. Rittman were heralded countrywide and on account of the exigencies of the time those in charge of the process were rushed into arrangements and contracts to erect the plants before it was possible for anyone to determine the best methods of procedure and the best type of equipment. The first supposedly commercial outfit was erected in Pittsburgh for the Aetna Chemical Co. and was operated for a number of months before it was moved to one of the subuprban towns. While without a doubt the Aetna Chemical Co., which contracted to spend a large sum of money to develop this equipment, did not recover its money directly, it is fairly well authenticated that having the Rittman process operating served as a club by which it was able to renew valuable contracts for toluol and hence it probably was in no way the loser by the venture.

After this a number of units were erected in various parts of the country for the production of gasoline and the writer is informed that one of these units is still operating satisfactorily in western Pennsylvania. On account of the desire for toluol, the Rittman system was called upon to stand exceptionally hard service from the start and before anyone was in a position to develop the equipment to the necessary commercial stage. The Rittman plant consisted of vertical tube 12 to 16 inches in diameter, 12 to 15 feet long with walls 1 inch thick. Fittings were made of heavy cast steel. The first tubes used in the Pittsburgh plant were 8 inches in diameter and had about 1-inch walls. It was found that, of course, when oil was sprayed into one of these tubes when heated to a high temperature, carbon deposited on the walls. Accordingly there was added a cast-iron paddle to which were fastened chains to remove the carbon. Unfortunately, on account of the radiant heat in the tube, the stirrer became a good accumulator for carbon and did not do the necessary cleaning. Later when operating upon gas oil or kerosene for the purpose of making gasoline, it was found that the equipment could be arranged to work satisfactorily and give a yield of around 28 per cent of gasoline and a loss of about 5 per cent in the form of gas and carbon.

**Greenstreet and Forward Systems**

The Greenstreet process was invented by Dr. Charles J. Greenstreet, who began working upon the cracking of oils in the earlier days of the development of cracking. While Dr. Greenstreet operated in the vapor phase, he did so in the presence of a considerable amount of steam. His cracking coil, of which usually about eight are placed in a single furnace, consisted of 20 20-foot lengths of 2-inch drawn steel tubes arranged in a continuous coil. Originally, these coils were welded together, but later he used cast-iron return bends welded on and held in place by cast-iron supports. This equipment was largely operated to make synthetic crude, which after cooling was picked up from the storage tank and re-run in the steam still to make the required end point gasoline. The operating pressures were from 75 pounds to 150 pounds and the steam varied from one-eighth to one-fifth of the weight of the oil treated.

The gasoline yield varies with the raw materials, but in a single passage through the coils 25 to 40 per cent of the heavy oil could be converted into gasoline of 437 degrees Fahrenheit end point. Carbon troubles are not a serious factor in the operation of this equipment. On account of the high velocity of the oil vapor and the protection afforded by the presence of steam, very little carbon is deposited in the tubes. At the end of the week's run some of the tubes would show thin films of carbon scarcely one-sixteenth of an inch thick and ordinarily this was removed by blowing down with air. A number of these plants were built some years ago, but at the present time the writer has not been able to learn of one in operation.

**Forward Equipment**

Mention might also be made of the Forward equipment, designed by Dr. C. B. Forward of Urbana, Ohio, who is reported to have several units in operation. The essential and most interesting feature of Dr. Forward's equipment is based upon the idea of maintaining an extremely uniform temperature. This is done largely by first superheating steam and then heating the oil by means of the superheated steam. Theoretically, the idea is undoubtedly good, but the question of expense arises as to whether or not it is necessary to go to this extreme. Such excellent results and freedom from serious carbon troubles have been secured in equipment where direct heating is utilized that there seems to be some doubt as to the necessity for the extreme care.

There are literally hundreds of other equipments which it is not possible even to mention in a brief article such as this. The aim has been, first, briefly to describe the equipment actually operating on a large scale, and second, to indicate the different types of processes rather than to attempt the impossible task of securing reliable data on all equipment and methods that have been tried.

As indicated previously, while endless names are applied, it is general knowledge that the many processes are largely slight variations on systems already discussed. Reference may be made, however, to details of many forms of the existing equipments in such authoritative treatises as "Gasoline and Other Motor Fuels," by Carleton Ellis and Joseph V. Meigs, and "Motor Fuels," by Dr. E. H. Leslie.

**Chemical Cracking Processes**

A large number of chemicals such as ferric oxide, metallic iron, ferric chloride, bauxite, kaolin, aluminum chloride and lime, as well as various metallic baths, have been tried as catalysts to assist in the production of gasoline. So far as is known, all of these materials have gone into the discard with the exception of iron ore used in the Ramage process and aluminum chloride that has been developed of late years by George W. Gray and A. M. McAfee. The latter is being utilized by the Gulf Refining Co. to make a considerable amount of gasoline. The

# The Field Pump of Today

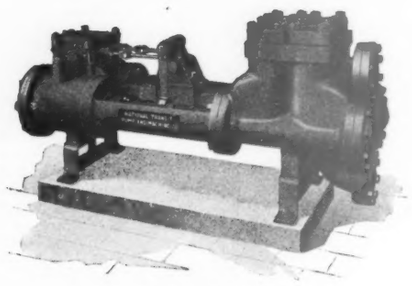


Fig. 945

**10x4½x10″ Valve Pot Type**

# Transit Pump

A pump that is hauled out in the country, dumped off a truck, hurriedly connected up, and set to work in the open with very little care or attention necessary, is generally called a "Field Pump." That is, if it stands the racket. If it don't, lease operators and roustabouts apply their own names.

The pump illustrated above has come to be looked upon as a super Field Pump by some of the largest producing and pipe line companies in the field. Its rugged construction, its larger capacity of 80 to 120 bbls. per hour, and its higher working pressure of 400 to 650 pounds, overcome many of the limitations of the ordinary field pump.

*Our new Bulletin 105-A describes these pumps.*

**NATIONAL TRANSIT PUMP & MACHINE CO.**

OIL CITY, PA.

District Offices: New York Philadelphia Pittsburgh Cleveland Tulsa Houston Denver


product is of excellent quality, but it appears that this method of operation is more expensive even than the operation by pressure stills for the manufacture of gasoline.

The method of operation is simple and safe, owing to the fact that no pressure is required and, as previously indicated, the gasoline is entirely satisfactory and quite similar to straight-run gasoline. The main drawback, however, is that the aluminum chloride costs too much to manufacture to be thrown away after each operation and as yet no satisfactory method for thoroughly reviving it has been developed. The other difficulties met with in the operation could be overcome, provided the problem of the expense of the aluminum chloride could be satisfactorily solved. There is a great deal of talk relative to the principal merits of certain cracking equipments, and in making comparison of the claims one is struck by the great difference in the yield of gasoline claimed for different methods of operation.

**Comparing Yields and Processes**

A year or more ago a consultant was asked how he could recommend a certain process to a company when its backers claimed to produce only around 35 per cent of gasoline, while another equipment which he himself was considering installing would produce 60 to 65 per cent. It was found upon making direct comparison that the first promoter was talking about the percentage of gasoline for throughput and the other was assuming that the residual oil, whether gas oil or fuel oil, was credited to the amount charged. Thus the yield of 65 per cent which he got represented the relationship between the amount of gasoline obtained and the amount of charging stock used. When figuring in this same way, the first method was shown to indicate a corresponding yield of 68 or 69 per cent. When referring to yields of gasoline from any particular equipment it should always be determined just how those yields are figured. It should also be kept in mind that all cracking processes are not equally suitable for every refinery. The conditions should be carefully scrutinized before deciding which is the better equipment for any given plant.

## LARGE SAVING CLAIMED FOR CATALYTIC PROCESS

(Continued from Page 88)

when acid treated; and that retains all the constituents that make it valuable as motor fuel.

**Comment on Process**

Commenting upon the new process, one author declares:

"The importance of gasoline production from cracked distillates has never received more attention from higher sources than during the year that is about to pass. It is estimated that approximately one-third of our gasoline supply is derived from pressure distillates, and if it is true, as it appears to be, that the percentage will continue to increase, it is obvious that to be adequate to the ever increasing demand all likely cracking processes must yield a constantly increasing return.

"Already the condition has led to complications on the business of gasoline refining, and it is logical to suppose that more are to come. The question of color and odor is paramount at the moment.

"Most 'straight-run' gasoline—that produced by simple fractionai distillation of crude petroleum—needs no refining to be good motor fuel; but nearly all gasoline produced by cracking will turn yellow or brown after standing for a while, evn though it be water-white on the original distillation. And it will not only have an odor that is more or less disagreeable, but, what is even more serious, perhaps, it will deposit gum or resin.

"Gasoline that deposits gum, of course, is a serious problem to the refiner, for he knows that it wil choke the feed pipes and carburetors of any motor using it, and that it is only a matter of time before his sales outlets will cease to function. To obviate such probabilities many refineries have adopted a method of refining gasoline which employs sulphuric acid.

"Though it be common knowledge to all in the refinery field of the oil business, some slight reference to this acid process of refining gasoline may not be amiss.

"In this process a gasoline distillate is washed with sulphuric acid, afterwards with water, then with an alkaline solution, again with water, and then distilled. Sometimes the entire process has to be repeated—an annoying item of production costs.

"The smell of the acid, the cost of handling 'sludge'; the cost of recovery—and the fumes of the recovery process—are all admittedly objectionable, if not disproportionately costly, by refiners who have to treat their gasoline by such methods. But this is not all.

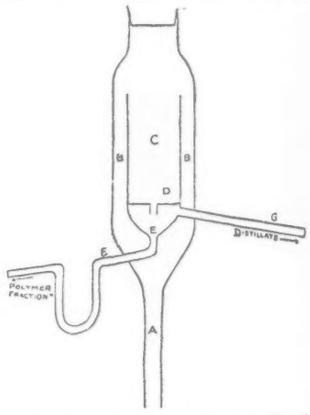
"We come again to the question of color—not to mention odor.

"Untreated gasoline which goes off color and deposits insoluble residues is usually ascribed to diolefines.

"Acid treatment removes these, it is true, but it also removes many other compounds (those which lend 'pep' to the fuel) which not only cause no trouble but are among the most valuable constituents of the gasoline, being fractions of the lowest boiling point.

**Acid Treatment**

"By acid treatment also there is caused a polymerization of some of the light hydrocarbons, causing re-formation of products of high boiling point, and these polymers have to be recracked. (For example, a crude gasoline having an end point of 437 degrees Fahrenheit produced by cracking, when treated with acid no longer has an end point of 437 degrees Fahrenheit, but probably 4 to 5 per cent will have a higher end point,




i.e., fit only for gas oil.) Mr. Gray's method of solving these problems is intensely interesting, to say the least for it.

"For example, the colored polymer fraction above referred to. More than ½ to ¾ of 1 per cent of this fraction condenses, but if redistilled, all that passes off below 437 degrees Fahrenheit is water-white; while none of the intensely colored compounds distill at less than 100 degrees above this point.

"Not only in experimental work, but in commercial practice, thus far the colored fraction has been returned to the still in perfect confidence that none of the colored bodies would redistill with the gasoline."

Of the cost of the new process compared to other commercially operated processes, there appears to be room for debate. The cost of Fuller's earth varies, of course, and the claim of the Gray Processes Corporation that good grades of Fuller's earth can be obtained at a cost per ton averaging somewhere between $8 and $10 is open to substantiation.

It is claimed, furthermore, that from 100 to 500 bbls. of gasoline, per ton of earth, can be averaged.

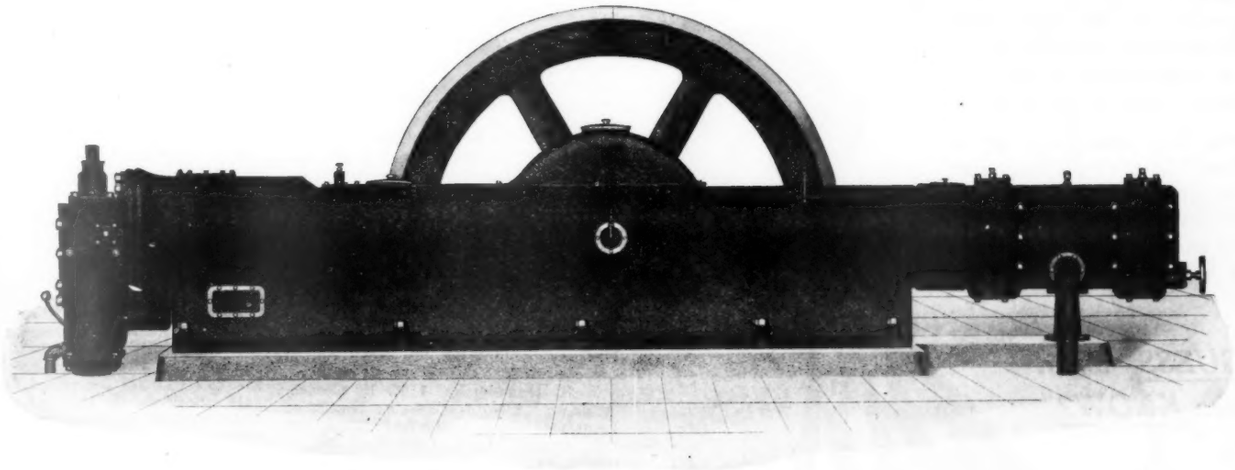
The handling and re-treatment values of the earth are also points in its favor apparently, for not only can it be blown into the catalytic towers, thus lowering handling costs to a minimum, but retreated at a very small cost compared with sludge.

The towers used in the process have thus far been made by the Bethlehem

# Watts-Miller

## The Miller Improved Gas Engine Company

### Springfield, Ohio



The Watts-Miller Gas Engine Driven Gas Compressor is not a spontaneous development.

With the knowledge gathered by close observation of operating conditions in various localities the designer has perfected a machine with many features and refinements that contribute to its remarkable record in operation.

Following are a few of the features that give this machine its staying powers in 24-hour service.

Oiling system consists of a complete automatic circulating and filtering supply being maintained at constant pressure controlled by automatic electric cutout device that will cut out ignition to engine before oil is exhausted.

Lubrication of Power Cylinders is by two positive force feed pumps which will deliver oil directly into piston between rings preventing any loss of oil in distribution along cylinder surface in each stroke of Piston. Oil is atomized against cylinder surface by Compressed air.

Ignition by German or Robert Bosch Magneto equipped with impulse starter and spark advance, double spark plugs, can change plugs with engine under full load without misfire.

Watts Type high speed ball bearing Governor with differential mechanism, no dash pots or springs required to overcome hunting or racing, will handle engine at any load without any manual adjustment, runs in oil, case is dirt proof, driven by gears.

Variable Gas Mixing Chamber insuring a correct and positive mixture under all load conditions, fully automatic, no hand valves necessary.

All wearing parts arranged independent of large expensive castings, all easily replaced.

Levers are arranged under exhaust valve to relieve pressure when engine is being placed in starting position.

Watch this space where we will point out other important details of the Watts-Miller.

# TAKING CHANCES

In thousands of places, where Danger Lurks, conscientious men have sounded warnings, so that those who want to do so, may heed them.

But it seems to be a favorite pastime for some to "take a chance."

All grades of

## WILLIAMSPORT WIRE LINES

are Telfax tape marked for the sole purpose of enabling careful men to protect themselves against getting a line of the WRONG grade.

Williamsport Lines are tape marked "Williamsport" because we are proud of their quality. You'll seldom see manufacturers of an inferior line put their name on it.

Every grade of Williamsport lines is marked in Plain English and in a distinctive color for your safety—your protection.

When you buy and pay for a "mild Plow" line—you may get an inferior grade by mistake. If it's a Williamsport line, you'll detect the mistake instantly. If it isn't a Williamsport line you can't.

*Why GUESS—when you can KNOW?*

*Your safeguard. Look for it. Demand it.*

WILLIAMSPORT WIRE ROPE COMPANY

Main Office and Works, Williamsport, Pa.

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| | | | |
|---|---|---|---|
| Houston | Ardmore | Bartlesville | Shreveport |
| Graham | Holdenville | Cromwell | Casper |
| Mildred | Bristow | Smackover | Lewistown |
| Shidler | Muskogee | Arkansas City | Ranger |
| Blackwell | Okmulgee | El Dldorado | Electra |
| | | Cromwell | Wichita Falls |

# WILLIAMSPORT

SERVICE IN EVERY IMPORTANT FIELD


Steel Corp. at a cost depending upon the size.

The process, it is claimed, has large possibilities for kerosene refining also. The sulphur is not greatly affected by the process, but kerosene catalytically treated in the vapor phase gives long time burning tests, even when an amount of sulphur that would be very objectionable in an acid treated kerosene is present.

## EAST CENTRAL TEXAS

(Continued from Page 38)

Nos. 6 and 7, set surface casing; No. 8, rigged up.

E. L. Smith's No. 2 Beall, drilling at 600 feet; No. 3, rigging up.

Skelly Oil Co.'s No. 1 Seals, rigging up.

Atlantic Oil Producing Co.'s No. 1 J. W. Bounds, location made; No. 1 Edwards, drilling at 2,200 feet; No. 2, rigging up; Nos. 4 and 5, locations staked; Atlantic Oil Producing Co., Boyd Oil Co. and R. R. Penn's Nos. 2 and 3 McCorkle, rigged up; locations made for Nos. 4, 5, 6 and 7; No. 1 Penn-Williams, drilling at 600 feet; No. 1 Hinchcliff, drilling at 1,880 feet; No. 2, drilling at 2,000 feet.

Barclay & Meadows' No. 1 Wright, drilling at 1,800 feet; No. 1 Bonner, timbers in.

Mills Bennett's No. 1 Edwards, derrick up; No. 1 Wallace, drilling at 560 feet.

Carter & Lytle's No. 1 Martin, drilling at 400 feet; No. 1 Edwards, drilling at 2,260 feet in chalk; No. 3 Manning, drilling at 2,510 feet in chalk; No. 4, rigging up.

Farish, Watts & Collins' No. 1 Jackson, drilling at 1,650 feet; Nos. 2 and 3, rigging up; No. 1 McCorkle, location staked; No. 1 Wright, drilling below 2,000 feet.

Gulf Production Co.'s No. 1 Simmons, rigging up; No. 1 Quinby, rigging up.

H. H. Hapgood's No. 1, City Block 78, drilling at 1,400 feet.

Guy Hammond and other's No. 1 Quinby, shut down for water at 1,580 feet.

L. P. Hammond and others' No. 1 Hackney, drilling at 400 feet; No. 2, timbers in.

J. K. Hughes' No. 1 E. R. Crouch, drilling at 2,340 feet, chalk; No. 2, at 1,840 feet; No. 3, 1, 800 feet; No. 4, 900 feet, fishing; No. 7, 1,895 feet; No. 6, rigging up.

Humble Oil & Refining Co.'s No. 1-A Crouch set casing at 2,896 feet; No. 2, chalk at 2,118 feet; No. 3-A, drilling at 1,830 feet; Nos. 4-A and 5-A, rigging up; No. 6-A, location; No. 7-A, derrick; No. 1-B Crouch, set surface pipe; Nos. 2-B and 3-B, derricks; No. 1 U. L. Davis, drilling at 1,860 feet; No. 1 Dodd, bottom of chalk at 2,548 feet, drilling at 2,720 feet; No. 2, at 1,697 feet; No. 3 at 400 feet; No. 4, rigging up; Nos. 1 and 2 Poindexter, temporarily abandoned locations; No. 1 R. G. Poindexter, drilling at 1,100 feet; No. 2, at 2,108 feet; No. 3, location staked; No. 1 T. B. Poindexter, drilling at 1,371 feet; No. 2 at 1,735 feet; No. 3 at 600 feet; No. 4 at 1,625 feet, shut down to repair bit; No. 1 Ray Simmons, ready to spud; Nos. 2, 4 and 5, rigging up; No. 1 Stubbs, drilling at 500 feet, No. 2 rigging up.

Mutual Oil Co.'s No. 1 Manning (formerly Dale Shaffer's lease), taking core at 2,937 feet in shale.

Rio Bravo Oil Co.'s No. 2 Houston & Texas Central right-of-way, drilling at 1,200 feet; No. 3, at 1,650 feet; No. 14 at 1,575 feet.

E. L. Smith's No. 1 Edwards, drilling in sand at 2,976 feet; No. 2 at 560 feet.

Southern Exploration Co.'s No .1-A Wright, drilling at 2,260 feet; No. 2-A, drilling at 2,000 feet.

Sun Oil Co.'s No. 1 Simmons, drilling at 1,900 feet.

The Try-Wy Oil Co.'s No. 1 McCorkle, drilling at 1,900 feet; No. 2, rigging up.

## CALIFORNIA FIELDS

(Continued from Page 44)

getting a showing. The Winwell Oil Co.'s test at Hawthorne is drilling in a hard blue shale at 4,490 feet and, although there is some gas and a few rainbows present at times, the showing is negligible. Charles McFadden's No. 1-A, also in this area, is standing cemented at 1,102 feet.

### Hermosa Beach

The Manhattan Pacific's well No. 1 at Hermosa Beach shows a hard sandy shale at 3,000 feet. The Standard is drilling ahead at Los Nietos in No. 1 Culp at 5,570 feet, the formation being a hard sandy shale devoid of any showings and indications pointing to a dry hole. The Associated is going ahead nicely in its Newhall test and is drilling ahead at 2,380 feet. The Union is making rather slow progress in No. 1 Saugus and shows 1,005 feet of hole, the formation being a blue shale. The Superior took a core in a well No. 1-A, north of Whittier, at 4,100 feet but the formation, a hard sand, did not respond to the ether test. The company's No. 1 Andres is still held up with a fishing job which developed at 1,212 feet.

None of the holes being put down in Riverside or San Bernardino Counties look good for production, although one or two of these wildcats, following the usual policy, have reported slight showings from time to time. The Beaumont-Midway is experiencing considerable trouble in effecting a water shutoff at 4,140 feet and it is reported a cement plug will be put in bottom and an effort made to locate the source of entrance. The Spindle Top has cemented a string of 10-inch at 1,951 feet and a casing test will be made within a day or two. The Hesperia Oil Co., in San Bernardino County, claims an oil and gas showing at 2,940 feet but from another source it is reported the formation is a white chalky saline substance. The well is scheduled for a test next week. The Union's Rio Bravo wildcat, Section 4-29-25, is drilling in blue shale at 5,025 feet and, although the formation is somewhat encouraging, the hole has not shown a thing which looks like oil and gas. Deep drilling was anticipated, however, and production is looked for around 5,300 feet.

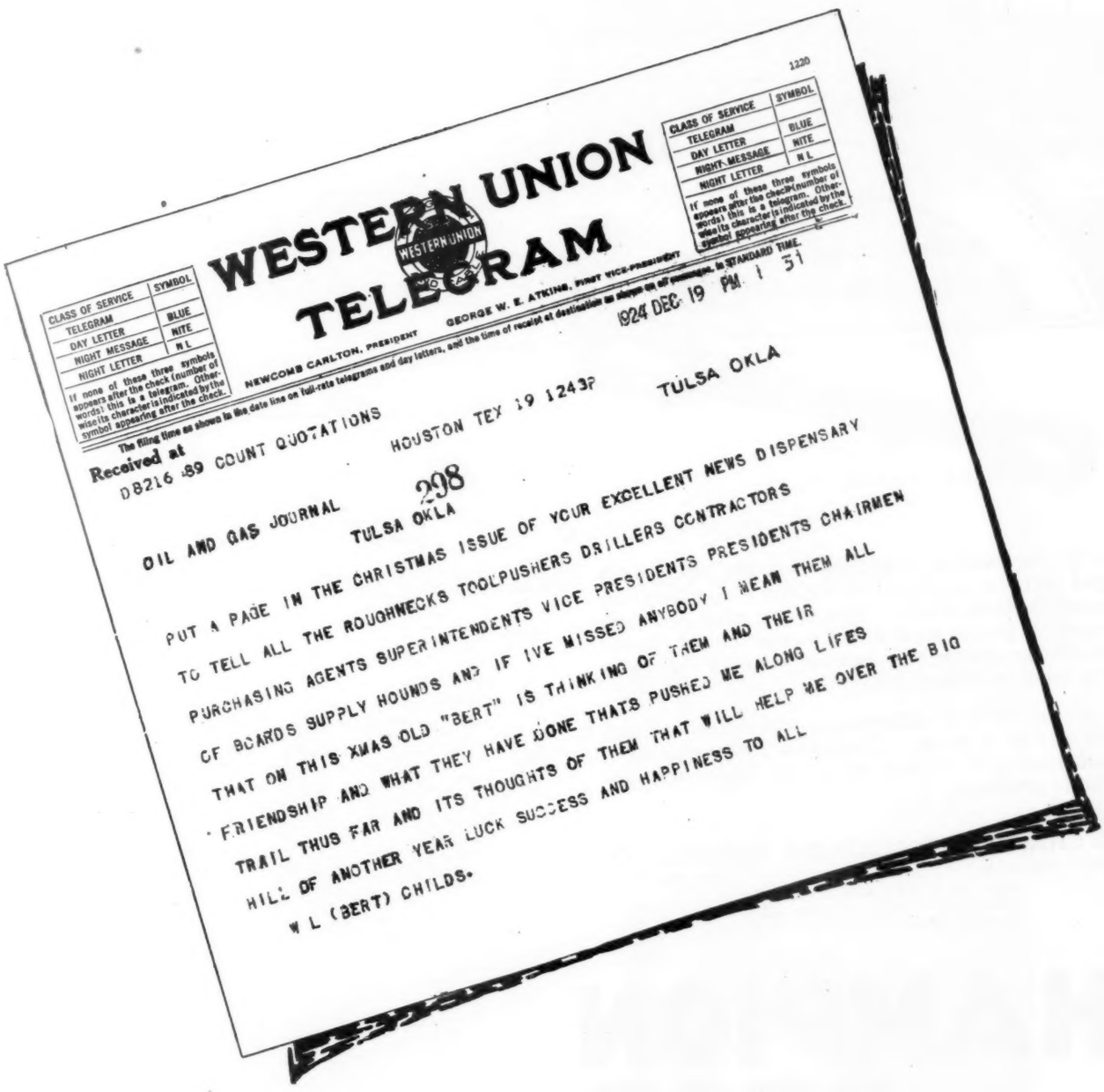
On the Kern River Bluffs, south of Bakersfield, the Pan-American got a small showing of gas at 4,100 feet, but, with the exception of an occasional showing of gas, this test has not shown anything to date. Both the St. Helens and the Central's wildcats in this area are standing cemented, the former's hole at 3,000 feet and the latter's at 2,487 feet. Work has been resumed on the Wesco Petroleum Co.'s well No. 22 at Temblor, Section 36-29-20, and the company is cleaning out at 300 feet. The Kendon Petroleum's No. 21 is showing a little oil around 350 feet but is being carried on down. R. W. Edens has not yet drilled out the cement in his first well but should do so during the coming week.

### Weed Patch Wildcat

The Shell is digging the sump for its Weed Patch wildcat on property secured from Leonard Jones and active drilling should be started some time during the next two or three weeks. Jones originally intended to test this property himself and had erected a rig on Section 30-30-29. When the Shell took over his holdings, the company's geological staff decided that the logical location was nearly 1 mile away, on Section 29-30-29. The Main Oil Co. has not yet finished rigging up the rotary on its Wasco test but will probably be in a position to go ahead shortly on its hole now at 3,979 feet. E. J. Miley's No. 1 Kreyenhagen, Section 7-22-16 on Jacalitos Dome near Coalinga, is drilling in a black shale at 5,050 feet. So far this test has been devoid of any showings of importance. It is reported the Snowolene found a small showing of oil and gas at 3,811 feet in its Jacalitos test and that the company would land a string of 8¼-inch, but this information could not be confirmed.

Interest in the Kettleman Hills area seems to be growing, rather than diminishing, notwithstanding that the General Petroleum has a none too encouraging test at 5,643 feet. The General Petroleum will not place this wildcat in the doubtful column until after the 6,000-foot level has been passed. The Marland is making good footage in its wildcats a few miles away, on Section 12-22-17, and reports

# Here's a telegram from Bert Childs



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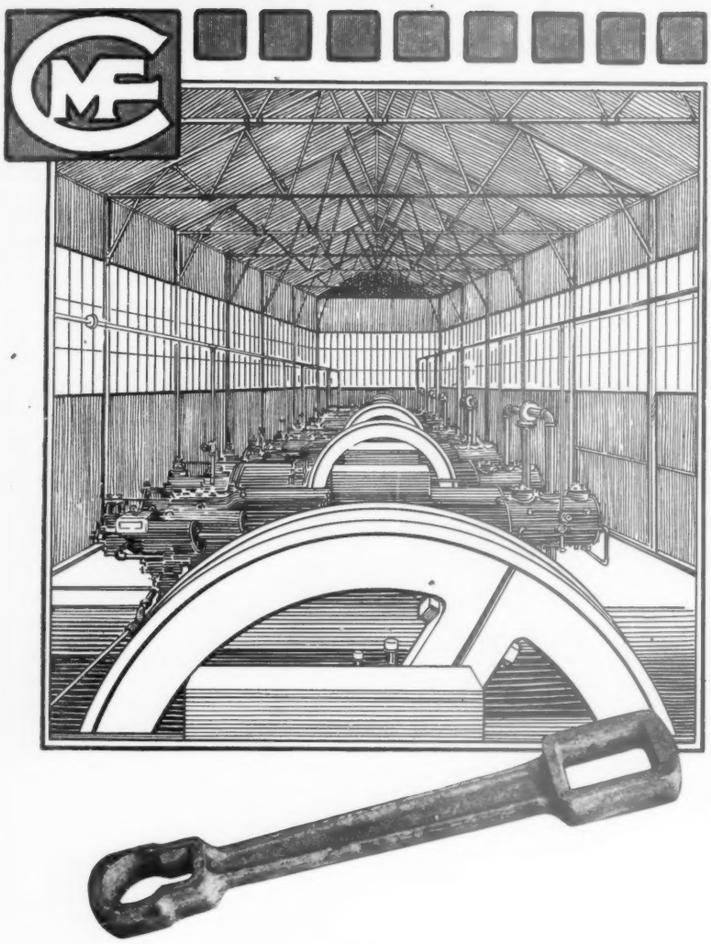
PUT A PAGE IN THE CHRISTMAS ISSUE OF YOUR EXCELLENT NEWS DISPENSARY TO TELL ALL THE ROUGHNECKS TOOLPUSHERS DRILLERS CONTRACTORS PURCHASING AGENTS SUPERINTENDENTS VICE PRESIDENTS PRESIDENTS CHAIRMEN OF BOARDS SUPPLY HOUNDS AND IF IVE MISSED ANYBODY I MEAN THEM ALL THAT ON THIS XMAS OLD "BERT" IS THINKING OF THEM AND THEIR FRIENDSHIP AND WHAT THEY HAVE DONE THATS PUSHED ME ALONG LIFES TRAIL THUS FAR AND ITS THOUGHTS OF THEM THAT WILL HELP ME OVER THE BIG HILL OF ANOTHER YEAR LUCK SUCCESS AND HAPPINESS TO ALL

W L (BERT) CHILDS.



One by one leading manufacturers are using drop forged parts for the load bearing and strain resisting parts of their products. The tough give and take strength of forged steel offers no element of chance break downs, but affords reserve stamina for emergency loads and hard pulls.

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CHAMPION DROP FORGINGS

3,365 feet of hole and the formation a brown shale. Several months ago Hugh McPhail started a wildcat on Section 13-24-18 but for some reason or other suspended operations for a time. Work has just been resumed on the hole as the result of some outside financial assistance. The Association has leased parts of Sections 35 and 36 on the east slope of Kettleman Hills on a one-eighth royalty basis and a bonus of $100 an acre. This looks like a good bet.

E. J. Miley is abandoning No. 1 Ojai at Ventura after carrying it to 5,021 feet, there being very little encouragement of any kind found. The Shell put No. 5 Taylor, in the Ventura Avenue Pool, on production and finished a 625-bbl. flowing well. The oil, which tests 26.5 degrees and shows a cut of 3 per cent, is coming from 4,285 feet. C. C. Julian has taken over the holdings of the Mid-States Petroleum Co. in San Mateo County but it is not believed any immediate drilling will be done. The Hub Oil Co. has secured an 800-acre lease in Tulare County and has just spudded in its test well on Section 13-24-27. The San Martinez has just about finished rigging up on Section 36-11-1 in Yolo County and it is believed the company will spud in within two weeks.

**Field Operations**

Oil field operations reported to the State Oil and Gas Supervisor show 26 new wells started, compared with 19 during the previous week, bringing the total for the current year to 1,308, compared with 1,354 at the same date last year. Of the 26 notices to drill filed this week, 6 were for wells in the Rosecrans Field, 3 at Torrance, 2 at Dominguez, 1 at Huntington Beach, 1 at Coyote, 1 at Ventura, 2 at Santa Maria, 1 in Napa County and 9 in the fields of Kern County. There were 10 tests of water shut off, compared with 36 during the preceding week. Deepening or redrilling jobs totaled 16, only one-half the number recorded during the period just preceeding. There were 14 holes abandoned, bringing the total for 1924 to 476, compared with 285 at the same date last year. Permits were issued for the following new holes.

**Torrance**
Location, Company, Well—
14-4-14 Selby & Root Co. 10.
Standard Oil Co.—
16-4-14 Marble Fee 33.
30-4-13 Superior Oil Co. 57.

**Rosecrans**
E. J. Miley—
7-3-13 Athens 3.
7-3-13 Athens 4.
7-3-13 Athens 5.
Federal Drilling Co.
7-3-13 Kanady 1.
7-3-13 Hercules Gasoline Co. 1.
Union Oil Co.—
18-3-13 Howard Park 8.

**Dominguez**
Union Oil Co.—
33-3-13 Callender 8.
34-3-13 Hellman 9.

**Huntington Beach**
Standard Oil Co.—
12-6-11 Thomson 5.

**Coyote Hills**
Standard Oil Co.—
13-3-11 Emery 40.

**Ventura County**
Montebello Oil Co.—
4-3-19 Shiells 116.

**Santa Maria**
Union Oil Co.—
22-9-34 Escolle 15.
Gilmore & Riverside Oil Co.—
30-9-32 Henderson 4.

**Temblor**
12-29-20 August J. Bomke 1.

**Midway-Sunset**
31-32-24 Berry & Ewing 5.
6-32-24 Honolulu Cons. Oil Co. 66.
19-31-23 Marland Oil Co. 4.
19-31-24 Pacific Oil Co. 49.
Standard Oil Co.—
1-11-24 Maricopa 27.
36-12-24 M. J. M. & M. 57.

**McKittrick**
29-30-22 J. F. McMahon 3.

**Kern County**
22-11-23 George F. Getty, Inc. 1.

**Napa County**
J. H. Carter—
29-8- 3 Prospect 1.

The following wells were abandoned during the past week:

**Salt Lake**
21-1-14 Rancho La Brea Oil Co. 7.
16-1-14 Rancho La Brea Oil Co. 8.
21-1-14 Rancho La Brea Oil Co. 9.
21-1-14 Rancho La Brea Oil Co. 10.
21-1-14 Rancho La Brea Oil Co. 11.
21-1-14 Rancho La Brea Oil Co. 12.
21-1-14 Rancho La Brea Oil Co. 39.
16-1-14 Rancho La Brea Oil Co. 48.
16-1-14 Rancho La Brea Oil Co. 51.

**Rosecrans**
Superior Oil Co.—
17-3-13 Moreland 1.

**Los Angeles County**
10-2-10 H. A. Bardeen 2.

**Ventura**
12-3-20 H. E. McLain 1.
12-3-20 H. E. McLain 2.
E. J. Miley—
4-4-23 Industrial 10 1.

## N. LOUISIANA-ARKANSAS

(Continued from Page 46)

J. N. Jones and others set 10-inch casing at 61 feet in No. 2 Ferris, Section 34-15-15, and drilling at 900 feet.

Magnolia Petroleum Co. has 1,100 feet of oil in the hole and waiting on standard rig with 10 feet of sand at 2,317 feet in No. 3 Brown, Section 26-15-17; rigging up No. 4 Brown, same section; set 10-inch casing at 167 feet in No. 10 Smith, Section 31-15-16, and drilling at 1,190 feet.

Marine Oil Co. set 12-inch casing at 63 feet in No. 3 Hays, Section 4-16-15, and drilling at 1,500 feet; Mazda Oil Co., drilling No. 1 Berry, in Section 33-15-15, at 1,260 feet; bailing to test 6 feet of sand at 2,271 feet in No. 2 Fincher, Section 29-15-16.

Reynolds and Thompson shut down No. 1 S. A. Graves, Section 16-14-18, to repair rig at 1,860 feet; Riggs and others, location for No. 2 Green, and derrick up for No. 3 Green, both in Section 23-15-17.

Ross and others are waiting on standard rig at 2,260 feet in No. 1 Stringfellow, Section 28-15-16; H. A. Shmuller set 6-inch casing at 1,850 feet in No. 1 Wells, Section 25-15-17; J. S. Smith, bailing to test 23 feet of sand at 2,284 feet in No. 2 Shirey, Section 36-15-17.

Staves and others are rigging up No. 4 Jeffus, Section 26-15-17; Stumph and Todd temporarily abandoned No. 4 LaGrone, Section 30-15-16, at 2,270 feet.

The Texas Co. set 10-inch casing at 48 feet in No. 2 Reynolds, Section 23-15-17, and drilling at 300 feet.

**Webster Parish**

Another failure to effect an eastern extension of the Cotton Valley Pool is recorded in the Woodley Petroleum Co.'s test on the A. J. Hodges lease in Section 18-21-9. This test is a little more than 1 mile east and south of the discovery well and nearly 1 mile northeast of production in Section 24, and went into salt water at 2,543 feet. The Humble Oil & Refining Co. is drilling an offset to the Woodley well in Section 13 which stands with 1,200 feet of oil in the hole and may refute the theory that the eastern limits of the field have been defined. Completion of this test is being delayed by a fishing job at 2,581 feet.

Another test being watched as a possible extension of the field to the southwest is the Alabama Petroleum Co.'s No. 1 Smith, in Section 29-21-10, which tested dry at 2,583 feet and will be drilled deeper. The Humble Oil & Refining Co. has derrick up for a test on the Gray lease in Section 26-21-10, which will test the territory 2 miles south of the original pool and half a mile south of the gas wells in Section 23.

Drilling has been stopped in both the deep tests in the Cotton Valley Pool, S. S. Raymond and others standing at 3,372 feet in No. 1 Coyle, Section 21-21-10, and the Palmer Corp. at 3,460 feet in No. 1 Miller, Section 29-21-10.

Alabama Petroleum Co. set 6-inch casing at 2,485 feet in Pardee A-3, Section 24-21-10, and at 2,490 feet in No. 1 Ramsey, Section 19-21-9. Fortuna Oil Co. is drilling at 1,100 feet in No. 1 Crichton, Section 19-21-9, derrick up for No. 2 W. Cox, Section 15-21-10, and set 6⅝-inch casing at 2,465 feet in No. 4 S. J. Merritt, Section 14-21-10.

Humble Oil & Refining Co. is bailing to test 29 feet of sand at 2,580 feet in Bodcau B-6, Section 28-21-10; drilling in shale at 2,450 feet in B-7, Section 28-21-10, in chalk rock at 2,040 feet in B-8, Section 13-21-10, and at 1,700 feet in B-9, Section 28-21-10, and at 1,710 feet in B-10, Section 28-21-10; drilling in shale at 2,210 feet in No. 2 Davis, Section 24-21-10, at 2,050 feet in No. 3 and at 1,350 feet in No. 4, Section 13-21-10.

Lousiana Oil Refining Co. made a location for No. 2 Lindsay in Section 22-21-11, and has derrick up for No. 3, same section. These tests are 6 miles west of present production. No. 2 Nelson, in Section 28-21-10, is drilling in gumbo at 2,485 feet.

McDowell and others are drilling in gumbo at 2,340 feet in No. 1 Hortman,

Preparing for a gusher, well No. 2 on reclaimed area of the Bibi-Eibat Sound.

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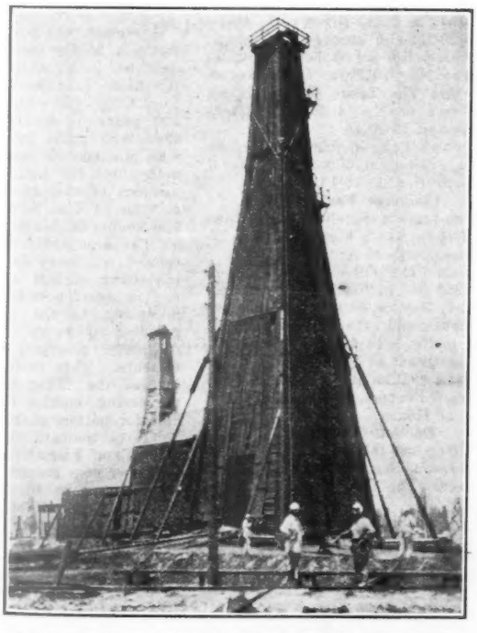

Gusher No. 23 on reclaimed area of the Bibi-Eibat Sound.

Sliding in a control block to divert the gusher to open storage. Well No. 67, Sourachani Oil Field.

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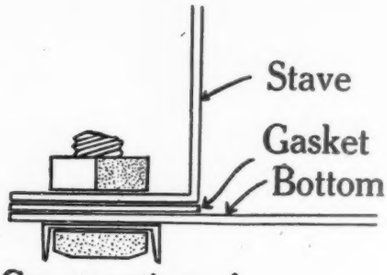
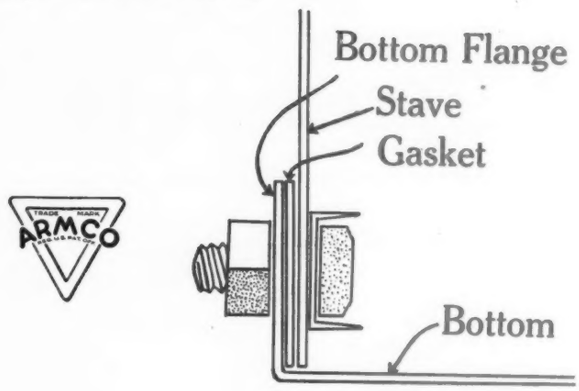



Construction of Any Tank Bottom




Construction of a Gantz Bottom

Notice the two types of construction shown above. Note how the Gantz bottom protects the staves against corrosion. Note how the Gantz bottom forms a joint which makes a tank really tight, and the deck is built the same way.

Note that the bolts in a Gantz tank must be cut off to give way, while in any other tank all that is necessary is to strip the threads. Note how easily and quickly a Gantz tank can be erected and reset, due to the construction.

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Bolted Iron Tanks
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Section 15-20-10, 4 miles south of production.

Moffatt & Murphy are down 500 feet in No. 2 Coyle, Section 28-21-10; Ohio Oil Co. is drilling at 2,000 feet in No. 11 Bodcau, Section 13-21-10, at 2,300 feet in No. 12, Section 27-21-10; rigging up to drill No. 13 in Section 13-21-10, and drilling at 500 feet in No. 14, Section 27-21-10; Derrick is up for No. 1 Harris, Section 16-21-10.

Oil Field Gas Co. is drilling at 1,260 feet in Hope Estate B-4, Section 24-21-10, drilling at 1,740 feet in B-5 and rigging up to drill B-6 in Section 13-21-10. Palmer Corp. is drilling at 500 feet in No. 1 Tillman, Section 28-21-10, and Tidal Oil Co. at 2,420 feet in No. 1 Gleason and has derrick up for No. 2, Section 28-21-10.

In the north end of Webster Parish, in the Springhill district, Arkansas Fuel Oil Co. is drilling at 2,185 feet in No. 1 Frazier, Section 27-23-11; Belchic & Laskey, drilling at 1,500 feet in No. 6 Pine Woods Lumber Co., Section 28-23-11 and rigging up to drill No. 1 Martin, Section 34-23-10, and Bethany Oil & Gas Co. drilling at 1,700 feet in No. 2 T. R. Wiley, Section 6-22-9.

Louisiana Oil Refining Corp. is rigging up to drill No. 1 Armor, Section 21-23-9; The Texas Co. set 6-inch casing at 2,560 feet in No. 1 F. M. Tingley, Section 35-23-10, and J. K. Wadley is drilling at 500 feet in No. 1 Porter Woodley, Section 31-23-9.

**Bienville Parish**

Roxana Petroleum Co. is drilling at 1,750 feet in No. 1 Bryan, Section 30-17-8, half way between Gibsland and Bienville.

**Bossier Parish**

In the Springhill district, Atlantic Oil Producing Co. is drilling at 2,175 feet in No. 2 Bodcau, Section 24-23-12.

In the Elm Grove district, Arkansas Natural Gas Co. set 6-inch at 1,890 feet in Van Hoose A-4, Section 31-16-11, and Palmer Corp. at 1,890 feet in Hodges B-6, Section 25-16-12.

Skannall and others are drilling in gumbo at 2,000 feet in No. 1 Roscoe, Section 14-17-12, a wildcat test 8 miles east and a little south of Shreveport.

**Caddo Parish**

In the Waskom district, Ford and others are down 100 feet in No. 1 Agurs, Section 14-17-16; Glassell & Myers had a 10,000,000-foot gas well in No. 1 Florsheim, Section 9-17-16, at 922 feet, but the well was killed with fresh salt water and will be drilled deeper.

In the Caddo Lake district, William Gross and others have 600 feet of oil in the hole in No. 1 H. Rives and others, Section 5-20-16, and arranging to pump; Gulf Refining Co. set 6-inch casing at 2,040 feet in No. 219 Ferry Lake, Section 22-20-16, and The Texas Co. is drilling at 3,100 feet in No. 1 Federal Jeems Bayou, Section 15-20-16.

In the Cross Lake district, Richardson Oil Co. is drilling at 600 feet in No. 1 Bostwick, Section 11-18-15.

**Claiborne Parish**

Claiborne-Lincoln Syndicate is drilling at 1,585 feet in No. 3 Fields, Section 22-19-5, 5 miles north of Arcadia.

El Dorado Chief Oil Co. is drilling in lime at 2,260 feet in No. 1 McElwee, Section 13-22-7, 7 miles northeast of Homer.

J. P. Evans and others are drilling at 1,200 feet in No. 1 Taylor, Section 5-19-5, 10 miles southeast of Homer.

Woodley & Collins are drilling at 2,870 feet in No. 1 Fortson, Section 28-21-5, 8 miles east of Homer.

**De Soto Parish**

L. V. Ulrey lost the hole at 420 feet in No. 1 Robinson, Section 22-11-12, and is moving over. The test is 3 miles north of Pelican.

**La Salle Parish**

Urania Petroleum Co. is moving in rig for another test on the Urania lease, Section 18-10-2e, the fifth test in this territory.

**Lincoln Parish**

Buckner and others have a fishing job at 1,220 feet in No. 1 Barrett, Section 13-20-3w.

**Morehouse Parish**

Natural Gas Producing Co. has derrick up for No. 14 Crossett, Section 19-22-5, and set 6-inch casing at 2,140 feet in No. 4 Tensas Delta, Section 3-21-4.

**Ouachita Parish**

Morrison and others are drilling at 100 feet in No. 1 Glazier, Section 37-19-4; Palmer Corp., drilling at 2,080 feet in No. 2 Morgan, Section 21-19-5; Southern Carbon Co. drilling at 2,005 feet in No. 42 Fee, Section 7-19-5, at 2,050 feet in No. 43 and rigging up to drill No. 44, Section 31-19-5, and J. P. White and others drilling at 50 feet in No. 1 Jones, Section 6-16-5.

**Red River Parish**

Tarver and others are rigging up to drill No. 1 Conley, Section 2-14-10, 3 miles east of Lake Bisteneau, in the north end of the parish.

**Winn Parish**

Galloway & Arrendale are drilling at 1,200 feet in No. 1 McCarty Section 5-12-1w, 10 miles northeast of Winnfield.

**Sabine Parish**

L. M. Emlet is drilling in rock at 920 feet in No. 4 H. L. Bowman Co., Section 8-7-12, and at 20 feet in No. 5, Section 9-7-12.

**Arkansas**

**Columbia County**

In the Stephens Field, Magnolia Petroleum Co. is drilling at 2,415 feet in No. 2 Watson, Section 36-15-20.

**Hempstead County**

Grassy Lake Oil Association is rigging up for a test on the Hempstead County Gun Club property, Section 27-12-27, 16 miles west of Hope.

J. G. Wooten is down 60 feet in No. 1 Clarke, Section 22-11-24, 7 miles north of Hope.

**La Fayette County**

KenSaw Petroleum Co. is drilling at 350 feet in No. 2 Red River Land Co., Section 3-20-24, 2 miles north of the Louisiana State line and 5 miles southeast of Bradley.

**Nevada County**

Garrett and others have derrick up for No. 1 Snell, Section 10-12-23, 7 miles northeast of Hope.

In and adjoining the Nevada County Pool, Smitherman & McDonald are temporarily shut down at 1,160 feet in No. 3 Drake, and at 2,405 feet in No. 3 Womack, Section 10-14-21. Southern Oil Co. is drilling at 950 feet in No. 1 Mass, Section 7-14-20, and Zing and others drilling at 1,130 feet in No. 1 Graves, Section 22-10-23, and derrick up for No. 1 McKinney in Section 10-14-21.

## MANY CEMENT USES IN THE OIL INDUSTRY

A cement that is reported to make full strength 28-day concrete in 24 hours is described in a booklet being distributed by the Atlas Lumnite Cement Co., of New York City. "The biggest step forward in 100 years of concrete construction" is the claim made by the manufacturers, who cite specific instances. Among the many uses for Lumnite cement, the cementing of casings in oil wells, the cementing of drill borings, and for derrick and engine foundations, are mentioned.

"The high early strength of Lumnite cement will save days of valuable time in setting casings and will insure protection against collapse and corrosion," according to the booklet. "Its finer grinding and larger colloidal content give it greater plasticity than that of other cements. This facilitates its flow and insures the filling of all voids around the casing, making it particularly desirable for bottom plugs.

"Tests indicate that the compressive strength of Lumnite cement in 12 hours is 35 per cent greater than that of Portland cement in 10 days," the manufacturers claim. "This early hardening means the successful exclusion of water and gases; prevents loss of production, and makes it possible to resume drilling in a day after the cementing of a well."

## SALESMEN TO MEET

A general convention of the sales managers and salesmen of the J. B. Ford Co., of Wyandotte, Mich., will be held at the Statler Hotel, Detroit, Mich., during the week beginning January 12.

# Pure Iron REPELS Corrosion

ARMCO Ingot Iron is the logical iron to use in the oil and gas fields, because its *purity* insures long service and economy.

ARMCO Ingot Iron effectively resists corrosion caused by salt water and distillates.

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For Big Yield Turn to Atlas Valve Balls

Out in the fields where every minute lost from active production mounts up rapidly in dollars and cents, leading producers have found that Atlas Valve Balls in their Working Barrel Valves can be relied on to keep going under the severest conditions.

Such confidence in Atlas Valve Balls is the natural result of their proven stamina and capacity to render service months after other valve balls have failed and entailed production losses in replacing.

If you are after big yield get Atlas Valve Balls from your supplier today or write us direct if he hasn't them.

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Glenwood Ave. at Fourth St.
Philadelphia, Pa.

1295

## DEEP WELL PUMPING IMPROVEMENTS SUGGESTED

(Continued from Page 66)

plunger in the barrel does not readily follow.

The largest obtainable production depends entirely upon the number of linear feet of up stroke or lift which the plunger inside of the barrel travels per minute. If a plunger travels 30 inches with 27 revolutions of the crank (equal to 810 linear inches of lift) it will make less oil than a plunger which travels 40 inches at 22 revolutions (equal to 880 linear inches of lift per minute).

All depends, therefore, upon the effectiveness of power transmission from the beam through the sucker rods to the moving pump, and the most efficient pump will be the one which has the smallest loss in pumping stroke.

The plunger must drop easily and it might be advisable to run a sinker on top of it, which will furnish the necessary weight to drive the plunger rapidly enough through the oil to eliminate a compressive strain on the rods and their consequent early fatigue.

About 300 feet of sucker rods would be required to furnish enough weight to drive a plunger with the necessary speed downward through the oil and to overcome its friction against the walls of the barrels. This with the assumption that a pressure of about 400 pounds is necessary. Naturally such a string of rods exposed to compression will virtually coil together inside of the tubing, starting on the upward motion while the plunger itself is still traveling downwardly reversing it with such a violent shock that the rods are very liable to part.

Long stroke pumping devices will be more effective when steps are taken to have the plunger in the barrel willingly follow the full length of the stroke.

There is no question that for a number of deep wells with large production a long stroke pumping device will increase production to such an amount as to pay for the additional purchase price, in a short time.

The most practical and economical solution is probably the installation of a crank with a fifth hole, a general practice in several Mid-Continent fields.

The adoption of a device which will insure the polish rod a rectilinear motion will further benefit a longer stroke pumping motion with the present standard equipment.

### Counterbalance

Incorrect counterbalance is a source of power loss and troubles. A number of extensive tests with a dynamometric self-registering apparatus placed between the beam and the polish rod, have proven that the most satisfactory moment of counterbalance is about equal to 80 per cent of the combined momenti of weight of the sucker rods, weight of the buid, friction of the fluid against the tubing plus momentum of oil column during the reversion from down to up stroke.

The operator can, without any mathematics, ascertain the correct counterbalance with enough accurary by adding so much weight to the counterbalance that the band wheel and the crank will slowly stop at its lowest point. This has the advantage that the pump inside of the barrel stops at its highest point preventing the pump from sanding up, making the first pumping stroke a down stroke and not as usual an up stroke.

The customary way of using concrete blocks as counterweights is satisfactory and economical.

Sucker rods, tubing and working barrels do not demand immediate improvements and are sufficient to perform good service in deep wells around the 5,000-foot mark.

The leakage of a plunger contributes largely to the inefficiency of an oil well pump placed at great depth. The accuracy of a ground fit between the plunger and barrel has its limits and the liquid which rests upon the plunger with a total pressure varying from 500 to 3,000 pounds or more per square inch, has an enormous tendency to squeeze through the smallest fissures.

The total pressure which an oil column over 4,000 feet in height exerts on the plunger is about 2,000 pounds per square inch fluid weight and about an additional 1,000 pounds per square inch for the pressure which the momentum of the fluid column exerts onto the plunger when the moving fluid column on the down stroke reverts suddenly into the up stroke. This momentum depends largely upon the amount of fluid which the pump handles, the length of the stroke, the number of revolutions, the violence of reversion of motion, and the gravity of the oil.

The steel piungers mostly in use have a ball and seat traveling valve on top of same, and the tendency of the compressed fluid is to squeeze in between the walls of the plunger and the barrel with resulting compression of the plunger and expansion of the barrel. This is course, is very undesirable. It is natural, that the best fit obtainable by careful grinding of the barrel and plunger becomes inefficient under these pressures and the fact that the plunger and barrel recover their original conditions on the down stroke of the pump when the pressure of the total liquid column rests on the standing valve make these conditions still worse, for then the original tight fit handicaps an easy drop of the plunger reducing the full effectiveness of the pumping stroke.

The situation ought to be reversed. This can be done by adopting a steel plunger with the same ground fit but with thin walls and with ball and seat traveling valve placed at the bottom of the plunger. The total liquid pressure will act internally, expanding the plunger considerably more than the more resistant barrel, driving the thin walls of the plunger so tightly against the walls of the barrel that the most perfect fit is obtained while the plunger is submitted to the liquid pressure during the up stroke of the pump. The plunger and barrel will wear into each other, by choosing the right metals, to a mirror-like polished surface of both pieces. As this type of plunger will slightly shrink together under the absence of the liquid pressure it will drop easily on the down-stroke of the pump, enabling the operator to run an efficient long strong and fast pumping motion.

### Excessive Pressure

An additional way to increase production by overcoming excessive leakage of plungers is to reduce excessive pressures. The amount of liquid which flows through a leak will increase as the square of the increase of pressure, and the division of the total liquid pressure—say one-half—will therefore reduce the leakage of a given plunger to one-fourth.

This theory leads to the principle of more than one single plunger wherein the leakage will not only be reduced in the above mentioned ratio, but wherein each additional plunger will absorb the leakage from any neighboring plunger.

Many experiments have shown that the only way to reach this desired effect is to space the individual plungers so close together that the amount of fluid trapped between them is as limited as possible. The slightest leakage will build up the pressure in this small amount of liquid to the extent that a back pressure will be created which will be sufficient to reduce the total difference of pressure between upper and lower end of each plunger. This will stop or at least reduce the leakage.

The average time of a pumping up stroke is slightly more than one second and if any leakage based on the above multistage principle cannot be stopped within a small fraction of this second the system will be useless and the pressure of the total oil column will rest upon the one plunger with the best fit.

Multistage pumps of this type have been built in two, three and even four stages and have performed successfully in deep California wells.

The length of the plunger is a very important item. Most plungers are several feet in length following the principle of a stuffing box where length and efficiency is supposed to be the same thing. Temperature and pressure at the bottom of the well have a detrimental influence on the straightness of such a long, one-piece ground-to-fit plunger. It will be

## Use It With Air or Hand Pump or Both

1 Columbian Underground Storage Tank of high grade steel, expertly welded and having a substantial factor of safety over and above that required by the Underwriter's specifications.

2 Auxiliary pressure tank with a factor of safety beyond that of the ordinary filling station air tank. Also expertly welded and tied to bottom of storage tank.

3 Dished heads—standard construction on Columbian underground storage tanks—a factor which gives them strength not common to underground tanks of even heavier steel. Auxiliary pressure tank also has dished heads.

4 Two and one-half inch fill pipe, 36 inches long.

5 Four-inch pipe, 36 inches long, through which inlet valve to pressure tank may be removed for cleaning.

6 Feed line which conducts gasoline from pressure tank to tower container. Ends 1 inch above bottom of tank to prevent picking up bottom settlings.

7 Feed line to which hand operated rotary pump may be attached. Takes gasoline direct from storage tank. Does not interfere with air operation.

8 Air line through which air pressure is applied to auxiliary tank. (See also 10).

9 Clean out line. Extends to within one-half inch of bottom of pressure tank. By opening it, closing 6 and applying air through 8, bottom settlings are forced out into the open air.

10 Spud for attaching drain-back line permitting draining of tower container back into storage tank. This line and air line may be connected with a three-way by-pass valve, the operation of which drains the tower container back through line 6, into the pressure tank, up through line 8, through the by-pass valve and into the storage tank through line 10.

11 Spud for attaching vent pipe extending up into the air. 11a Double goose-neck type vent which may be attached to 11.

12 Extra 4-inch spud with plug. Foot valve may be inserted through this in the event foot valve type of pump is used.

13 Welded-on elbow fill pipe through which pressure tank is filled with gasoline and into which is fitted one-way valve.

14 One-way inlet valve which opens automatically when pressure on auxiliary tank is released. Through it the auxiliary tank fills with gasoline by gravity.

15 Rod attached to housing of inlet valve and extending up through 4-inch pipe. With this rod the valve housing may be unscrewed from auxiliary fill pipe and lifted out through the 4-inch pipe in the event it should ever need attention.

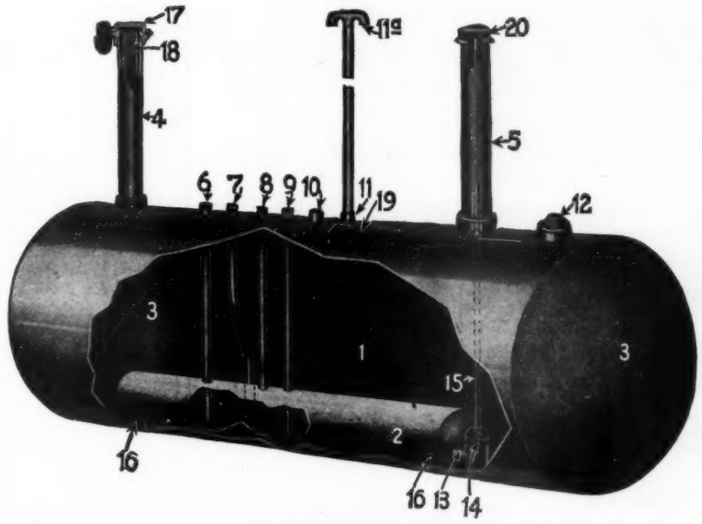
16 Steel straps which are welded to the auxiliary tank and to the bottom of the storage tank. Holds them together as a single unit.

17 Hinged cap atop the fill pipe. Has padlock arrangement.

18 Fine mesh strainer and fire screen fitting within the fill pipe.

19 Underwriter's label signifying that the Columbian Combination Underground Tank has been tested and approved by the Underwriter's laboratories.

20 Screw-on cap for 4-inch pipe provided for removing inlet valve to auxiliary pressure tank.




# You too Will Like It

HUNDREDS of oil distributors swarmed the Columbian exhibit at the Tulsa show to inspect the "Cow and Calf" Tank. Many of them came back the second and third time to study it. Not a one left without expressing his appreciation of this new Columbian invention. Without doubt it was the most popular equipment attraction for oil distributors at this great International show.

One Chief of Distribution for a large oil company sent more than a score of his men to look it over and report to him. Their unanimous report was "Chief, buy us 'Cow and Calf' tanks for our underground storage and nothing else."

Already, manufacturers of air operated pumps are adopting the "Cow and Calf" tank as a standard unit of their systems.

What is the "Cow and Calf" tank and what does it do?

Briefly, it is a high grade, all-welded, dished head Columbian underground storage tank into which is built the auxiliary air tank necessary for the operation of air systems. It eliminates a separate air tank. It combines the storage and air tanks in one unit.

It is a combination tank in more ways than one. Besides air operated pumps it will handle hand operated pumps of the rotary or foot valve type. It will handle any one, any two or all three types simultaneously without interference, one with the other. How does it do it? Read the full details in the column to the left.

The Columbian Combination Underground (Cow and Calf) Tank has been approved by the Underwriter's laboratories and bears their label. Write for detail blue prints and specifications covering your underground requirements.

Truck Tanks
Oil Field Tanks
Bulk Station Tanks

Underground Tanks
Floating Tank Decks
Barrels, Buckets

Carrying Cans,
Funnels
Faucets, Valves

Oil and Gasoline
Pumps
Plates, Sheets, Angles

# COLUMBIAN STEEL TANK COMPANY

EST'D 1894

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# Wherever oil is found

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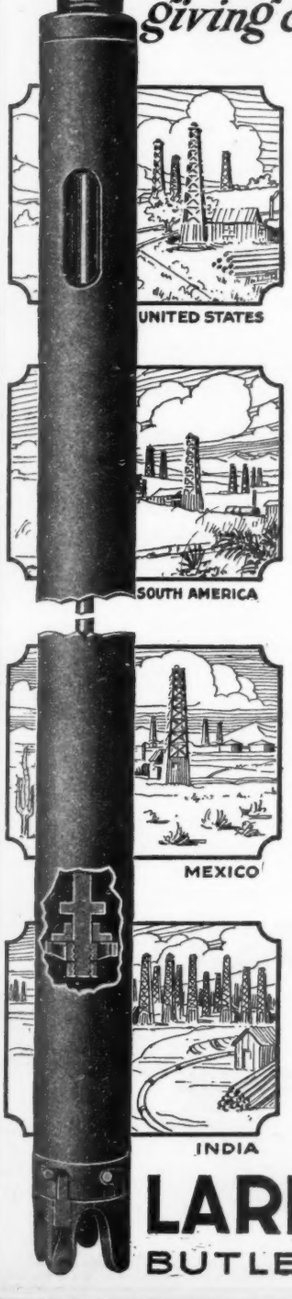
## IMPROVED SAND PUMP

*giving dependable service*




Its popularity has spread rapidly since it was first introduced in Eastern fields. The one reason for its present wide distribution in service is *good results.*

This famous pump is designed to meet all conditions, and does, with an unusual degree of satisfaction. In every way it is representative of *The Larkin Line* and reflects the way in which all our Drilling and Fishing Tools have fulfilled the needs of the Industry.

Today *The Larkin Line* is more complete than ever, but it still has its basis in the one characteristic we have always held fundamental—*thorough reliability in the performance of the duty for which intended.*

If this is what you want, get *Larkin Products* from any of the leading supply stores.

*Our new catalogue No. 25 describes The Larkin Line. May we send you a copy?*

**LARKIN & CO.**

BUTLER, PA., U. S. A.


deformed by these temperatures and pressures and the perfect alignment which plunger and barrel had in the shop might he lost when the pump is put in the well. The rigid barrel will naturally hold the plunger straight, but its tendency is that of a compressed spring and more friction may be created on one side than on the other, causing the parts to wear irregularly or to an egg shape, reducing the efficiency of the stroke and decreasing the good fit of plunger and barrel.

**Sand in the Oil**

The pumping of sandy wells has always been a great problem. Sand and other impurities have a detrimental effect on the long one-piece plunger. Sooner or later one or more grains of sand backed by the great fluid pressure will be driven between the two surfaces of the plunger and the barrel and the only way to prevent these grains from doing too much damage is to remove them as quickly as possible. This requires a plunger shorter than the shortest pumping stroke, thus enabling a grain of sand to work itself out on the other end of the plunger.

All depends on keeping the sand from settling in the moving parts of the pump and this can be done by forcing the oil through the pump in such directions and with such speed the sand is carried along with the fluid.

The capacity of the liquid to keep sand floating increases as the square with its flowing speed, and a pump with uniform openings and high flowing speed will be "self-washing" and not become blocked by sand.

Notoriously bad sand wells in California have been pumped successfully with a pump in accordance with this theory, with the result that more than one operator became so enthusiastic that he immediately lowered the tubing into the fluid for the purpose of increased production, several times with the ironical result of blocking the whole pump again, due to the sand which had filled the tubing for the length of several joints, packing so tightly around the sucker rod boxes that any pumping motion had become virtually impossible.

Large areas, small velocities, and a complete standstill of the fluid, or reciprocating motion of the oil column in the tubing were the cause for the settlement of sand.

In such extreme cases it might be necessary to keep up a continuous circulation of oil through the tubing speeding up the oil to carry along the sand. This can be done by replacing the sucker rods with a smaller string of tubing inside the usual tubing, moving the pump in the usual way and permitting in additional circulation of oil from the top of the derrick. An additional pump on top of the ground is necessary to keep the circulating oil moving which naturally makes this installation quite expensive.

Longer life of plungers is desirable and a higher grade of steel is considered an improvement. The best results have been obained by using a working barrel with cast iron liners of good quality and plungers with a glass hardened surface, heat treated in an adequate process.

As it is not possible to assemble in perfect alignment, a number of plungers, it has been necessary to construct a flexible joint inserted between two plungers. This joint enables them to move independently so they adjust themselves freely to the working barrel, which itself might not be perfectly straight. In fact such a joint which acts also as a coupling between two plungers has made the system of a multistage pump possible.

**Better Valve Arrangement**

The action of free gas in pumping wells has been the subject of extensive studies for it seems to be incomprehensible why gas, which is the most valuable source of energy for a flowing well should be detrimental to the production of a well when put on the pump. If gas hinders the production of a well it simply means that the pump is not built to handle gas and fluid together. The up stroke of the pump is a suction stroke and the down stroke is a compression stroke. There is no necessity to consider particularly the distance between the standing and traveling valve as long as a fluid such as water which is almost incompressible and which contains no free gas has to be pumped, but the situation is changed entirely when the same pump must lift oil, an altogether different fluid.

It is necessary to arrange these valves so they will come as close together as possible at the end of the down stroke otherwise the gas assempled between the two valves will remain between them and due to its high elasticity and compressibility simply expand and compress with every stroke not allowing the valves to function correctly. Any air compressor illustrates how much care is given to this point and no cushion space at all is left between the piston, the intake and the discharge valve.

The oil pump largely in use has a long one-piece plunger made of tubing with a ball and seat at the top. The open space left inside of barrel and plunger when the plunger is on its lowest point allows the gas to assemble, and, assuming the oil in the tubing exerts a pressure of 2,000 pounds against the top of the plunger, a mixture of oil and gas below the plunger must be compressed at least to over 2,000 pounds to permit a flow of fluid through the traveling valve into the tubing. Assuming gas and oil flow, during the suction stroke, into the barrel, with a pressure of 100 pounds per square inch, the mixture inside the barrel must be compressed from 100 to over 2,000 pounds and the free gas must reduce its volume in proportion.

This necessary reduction of volume can only take place when the volume between the two valves at the end of the up stroke is far greater than the volume at the end of the down stroke, otherwise no oil and gas will flow through the traveling valve, and the pump will not work.

It is common practice to discard the garbutt rod of the ordinary pump, placing an additional ball and seat traveling valve at the bottom of the plunger. This, together with the caution to run the plunger as close to the standing valve as possible, will overcome the undesired reduction in pumping efficiency.

**Gas Anchor**

A gas anchor attached to the bottom of the barrel is a valuable supplement for any pumping well with an appreciable amount of gas. The agitating action of the moving plunger always produces a certain amount of free gas and a proper gas anchor will act as a trap and separator keeping a large amount of free gas outside of the pump. A gas anchorage with but one inlet hole, size of the hole depending on the size of the pump and the gravity of the oil, has been developed and is successfully in operation.

The pumping of deep wells in California has given the operator troubles of so many different natures:

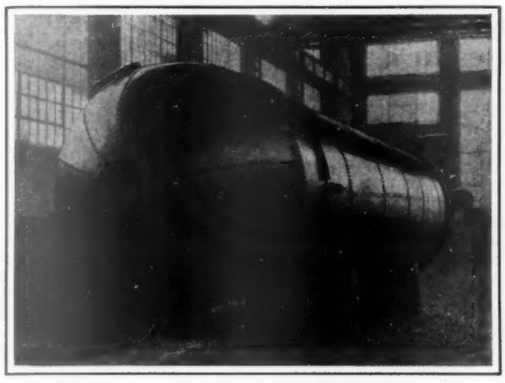
Due to great depth.
High gravity of oil.
Great gas pressure.
Water.
Fine floury sand.
Coarse sand.
Mud.
Floating sand.
Sulphur and other impurities.

And to the excessive small sizes of casing in extreme pumping depth, that every possible pumping device has been tried.

Extensive experiments with cups in deep wells without sand have proven to be successful when cups are run between two steel plungers which protect them from above and from below against excessive pressures, however, impurities, such as sulphur, have destroyed these cups in a very short time.

The experience obtained in the deep wells of the Los Angeles Basin with improvements on pumping equipment as described, give hope, that a step in the right direction has been taken, and that the pumping of deep wells around the 5,000-foot mark will soon become a matter of routine.

Most of the California deep wells are pumping now, and many of the practical men in the field and theoretical men in the office recognize how many possibilities of improvement the intricate problem of deep well pumping still holds.



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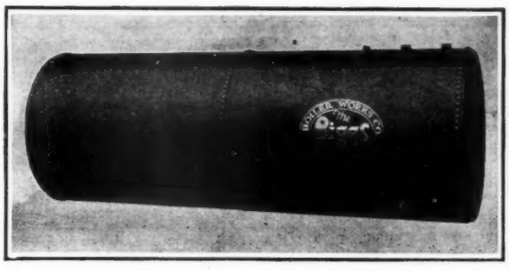

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High Pressure and Accumulator Tanks
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# Where Do You Buy—and Why?

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# BIGGS TANKS

## *Field Storage and Refinery Equipment*

# Oil Securities Maintained a Firm Tone

## Wortham Only Temporary Setback to Optimistic Feeling That Had Been Gaining Ground. Increases in Refined Prices Factors

By N. O. Fanning
*Room 543, No. 30 Church St., New York*

NEW YORK, Dec. 20.—Although speculative attention for the most part was turned in other directions, oil securities during the past week maintained a firm tone. The development of Wortham proved only a temporary setback to the optimistic feeling that had been gaining ground, and now the financial district is looking forward to better things in the oil business.

Increases in prices of refined products in the East and other sections of the country were factors in this improvement in sentiment toward oil stocks. The maintenance of the regular dividend by the Prairie Oil & Gas Co. was another. The action of oil stocks in that the recent sudden break brought out no extensive selling was also looked upon as indicating strength in the technical position of this group.

The action of Standard Oil Co. of New Jersey common in advancing to 39⅛, the highest price at which it has sold since early in the year, gave indications that this stock will serve as a leader of the oils if an upturn of any size is due. This is logical, as Standard of New Jersey is the largest unit in the oil business.

Stock of several subsidiaries of the Standard Oil Co. of New Jersey, traded in on the New York curb, have been strong for more than a month. International Petroleum, Ltd., sold up from 17 to 24, Imperial Oil, Ltd., from around 105 to 115, and Humble Oil & Refining from 37 to 42. It had been considered surprising that the stock of the parent company could remain inactive and unchanged under the circumstances.

### Pan-American Strong

Pan-American B stocks were strong, advancing to 60⅞ for the common and 60⅛ for the common B. Prospect for an increased dividend on Pan-American Petroleum & Transport class A and B stocks some time next year, as expressed by certain directors, is made brighter by the substantial improvement in earnings. Net earnings in November are estimated in excess of $3,000,000.

Current net earnings are at the rate of more than $12 a share a year on the 2,878,000 shares of A and B stocks outstanding, including the 200,000 shares of B stock recently listed on the stock exchange.

In the first six months of 1924 Pan-American earned approximately $3 a share, and earnings in the last half are expected to exceed that amount slightly, so that the final result for this year ought to be earnings equal to between $6 and $7 a share. In view of the unsatisfactory conditions prevailing in the gasoline market in 1924 this is regarded as a favorable showing. Few oil companies will make as good a showing for 1924.

The probability of earnings at the rate of $12 a share in 1925 is based on the record fuel oil business which the company will do at high prices. It has contracted to sell between 35,000,000 and 40,000,000 bbls. of fuel oil for delivery in 1925, some of the contracts being placed as high as $1.80 a barrel. Its Shipping Board contract, calling for delivery at Gulf ports, is at a price of $1.56 a barrel, also a profitable price. The $1.80 a barrel contracts compare with $1.40 a barrel a year ago.

### Tide Water Oil

Stock of the Tide Water Oil Co. advanced to 132, against a low last week of 123½. The highest price at which the stock sold this year was 151. It is pointed out in this connection that a majority of oil stocks are selling at or near their 1924 highs, while Tide Water stock is still almost 20 points below its high mark. That the company's earnings are increasing at an encouraging rate is quite generally known. The stock has a book value of more than $140 per share. It is believed the dividend rate will be increased next year if improvement of the last two years in the company's business is maintained.

Earnings of the company for 1924 are expected to approximate $12 per share, or three times the current dividend rate. An improvement in earnings next year to above that figure would justify restoration of the $8 annual dividend rate which was discontinued in 1921, it is believed.

### Mexican Eagle Oil

The first preference dividend on Mexican Eagle Oil shares, due April 30, 1924, will not be paid on that date, according to reports from London. Consideration of payment will be postponed until early in June, according to a statement by the company. Mexican Eagle stock is controlled by the Dutch-Shell combine.

### Prairie Oil & Gas

The stock of the Prairie Oil & Gas Co. advanced to 208 on the declaration of the regular dividend, against a recent low of 194. The new stock sells at approximately 52 on a "when issued" basis. The old stock sold as high as 269 this year.

### White Eagle Oil

The White Eagle Oil & Refining Co. has declared the regular quarterly dividend No. 22 of 50 cents per share, payable January 20 to stockholders of record December 31.

### Lone Star Gas

Lone Star Gas Co. for 10 months ended October 31, 1924, reports net earnings of $1,419,818 after depreciation, taxes, etc., compared with $1,101,134 in same period of 1923.

## NEW YORK STOCK EXCHANGE—LIST OF ACTIVE STOCKS

| No. | Stock— | Par | §Dividend Rate | Clos. Dec. 22 | Quotations Dec. 15 | 1924 High | 1924 Low | 1923 High | 1923 Low |
|---|---|---|---|---|---|---|---|---|---|
| 1. | American Republics | .. | .. | 44 | *39 | 46⅜ | 25 | .. | .. |
| 2. | Associated Oil | 25 | 6 | 31⅜ | 31⅞ | 34⅝ | 27⅝ | 29¼ | 29½ |
| 3. | Atlantic Ref. com. | 100 | .. | 90¼ | 92 | 140½ | 78½ | 160 | 98⅝ |
| 4. | Barnsdall "A" | 25 | .. | 19⅝ | 19⅞ | 21⅝ | 14 | 35 | 9⅞ |
| 5. | California Pet. com. | 25 | 7 | 22⅝ | 22⅝ | 29 | 19⅞ | 28½ | 17½ |
| 6. | Cosden & Co. com. | .. | .. | 26 | 26⅛ | 40¼ | 22⅝ | 62¼ | 23⅜ |
| 7. | General Am. Tank | .. | †3 | 51 | 48 | 53 | 35½ | 71⅝ | 40 |
| 8. | General Asphalt | 100 | .. | 56⅝ | 57½ | 52 | 31⅜ | 64 | 23 |
| 9. | General Petroleum | 25 | 8 | 42 | 41⅝ | 45 | 38⅝ | .. | .. |
| 10. | Houston Oil | 100 | .. | 75⅜ | 75⅝ | 82½ | 61 | 78 | 40⅜ |
| 11. | Independent Oil & Gas | 10 | .. | 10½ | 11 | 13½ | 5⅜ | 11¼ | 3⅜ |
| 12. | Indian Refining | 10 | .. | 8⅝ | 8⅝ | 7 | 3⅜ | 8½ | 4 |
| 13. | Invincible Oil | 50 | .. | 14⅜ | 16⅛ | 16⅞ | 11⅜ | 19¼ | 7½ |
| 14. | Maracaibo | .. | .. | 37⅞ | 28½ | 37½ | 25⅞ | 28¼ | 16 |
| 15. | Mariand | .. | .. | 37¼ | 37½ | 42 | 29 | 59⅝ | 18½ |
| 16. | Mexican Seaboard | .. | .. | 21¼ | 20 | 25⅜ | 14½ | 19⅜ | 5⅜ |
| 17. | National Supply | 50 | 6 | *59 | 57⅞ | 72½ | 54 | 68 | 54 |
| 18. | Pacific Oil | 50 | †2 | 52 | 51⅞ | 58¼ | 45 | 52⅛ | 31½ |
| 19. | Pan American com. | 20 | 16 | 63⅝ | 58 | 64⅝ | 44¼ | 93½ | 53 |
| 20. | Phillips Petroleum | .. | †2 | 36 | 35⅝ | 42¼ | 28½ | 69⅝ | 19⅜ |
| 21. | Producers & Refiners. | 50 | .. | *29 | 27 | 43½ | 22⅜ | 58¼ | 17½ |
| 22. | Pure Oil com. | 25 | 6 | 28⅞ | 29 | 30¼ | 20 | 32 | 16¼ |
| 23. | Royal Dutch, N. Y. sh. | 13.40 | 2.62 | 48⅞ | 48½ | 59½ | 40⅜ | 55⅛ | 40½ |
| 24. | Shell Transport | 10 | x92½ | *39 | 39⅝ | 41½ | 33 | 41¼ | 29½ |
| 25. | Shell Union com. | .. | †1 | 21¼ | 21 | 22 | 16⅝ | 19¼ | 12⅜ |
| 26. | Simms Petroleum | 10 | .. | 13⅛ | 17½ | 19 | 10⅜ | 16⅞ | 6½ |
| 27. | Sinclair Cons. com. | .. | .. | 16⅞ | 16½ | 27½ | 15 | 39⅝ | 16 |
| 28. | Skelly Oil | 25 | .. | 21⅝ | 21⅞ | 29 | 17½ | 35 | 12¼ |
| 29. | Standard of California | 25 | 8 | 61¼ | 61⅝ | 68½ | 55½ | 64½ | 47⅛ |
| 30. | Standard of N. J. com. | 25 | 4 | 39¼ | 37⅞ | 42¼ | 33 | 44¼ | 30⅞ |
| 31. | Standard of N. J. pfd. | 100 | 7 | 117 | 117 | 118⅝ | 115¾ | 118¼ | 114¾ |
| 32. | Superior Oil | .. | 6 | 5 | 4¼ | 8¼ | 2⅝ | 6⅝ | 2 |
| 33. | The Texas Co. | 25 | 12 | 43⅛ | 42 | 45⅝ | 37⅜ | 52⅞ | 34⅝ |
| 34. | Texas Pac. Coal & Oil. | 10 | .. | 10⅝ | 11 | 15¼ | 8¼ | 24⅝ | 5½ |
| 35. | Tide Water Oil | 100 | 4 | 130¼ | 129½ | 151 | 116¼ | 144 | 94 |
| 36. | Transcontinental | .. | .. | 4 | 3⅞ | 6¼ | 3⅜ | 14½ | 1¼ |
| 37. | Union Oil of Cal. | 25 | 7.2 | 36⅛ | 36⅝ | 37½ | 35½ | .. | .. |
| 38. | Union Tank com. | 100 | 5 | *122 | 120 | 132⅝ | 94 | 114 | 106 |
| 39. | White Eagle Oil & Ref. | .. | 2¼ | 27 | 27⅜ | 29⅝ | 23⅛ | 30⅝ | 20⅛ |
| | **Standard Oil Stocks** | | | | | | | | |
| 40. | Anglo-American Oil | £1 | 25 | 18 | 17 | 18⅝ | 14⅞ | 19⅝ | 13½ |
| 41. | Borne Scrymser | 100 | 12 | *239 | *225 | 264 | 150 | 153 | 110 |
| 42. | Buckeye Pipe Line | 50 | 14 | 60½ | 59 | 85½ | 51 | 94 | 57½ |
| 43. | Chesebrough Mfg. Co. | 25 | 14 | 49 | *48 | 52½ | 29¼ | 340 | 205 |
| 44. | Crescent Pipe Line | 25 | .. | *12 | *12 | 20 | 11¼ | 25 | 15 |
| 45. | Cumberland P. L. | 100 | 10 | 135 | *135 | 148 | 109 | 117 | 80 |
| 46. | Eureka Pipe Line | 100 | 8 | 86 | 82 | 105 | 74 | 117¼ | 87 |
| 47. | Galena Signal com. | 100 | 4 | 56 | 57 | 69⅜ | 52⅛ | 78 | 55 |
| 48. | Humble Oil & Ref. | 25 | 4.8 | 41⅝ | 40⅜ | 43⅝ | 36 | 41 | 28¼ |
| 49. | Illinois Pipe Line | 100 | 12 | 125 | 127 | 161 | 123 | 171 | 115 |
| 50. | Imperial Oil Ltd. | 25 | 12 | 113½ | 112 | 119 | 99 | 123 | 92 |
| 51. | Indiana Pipe Line | 50 | 8 | 72½ | 72 | 100 | 66 | 103 | 81 |
| 52. | International Pet. Co. | 100 | x50 | 22⅝ | 22⅝ | 24¾ | 16⅞ | 24⅜ | 13¼ |
| 53. | Magnolia Pet. Co. | 100 | 4.5 | 133 | 137 | 162 | 124 | 166 | 123 |
| 54. | National Transit | 12.50 | 16 | *21 | 21⅞ | 25⅞ | 20⅝ | 29 | 19½ |
| 55. | New York Transit | 100 | 10 | 69½ | 61 | 97 | 64⅜ | 138 | 70 |
| 56. | Northern Pipe Line | 100 | 6 | 82½ | 74 | 107½ | 72 | 111 | 96 |
| 57. | Ohio Oil Co. | 25 | 8 | 62 | 62⅜ | 79½ | 53 | 85⅝ | 48⅝ |
| 58. | Penn-Mex. Fuel | 25 | .. | *36 | 33 | 45⅝ | 27 | 45 | 10½ |
| 59. | Prairie Oil & Gas | 100 | 8 | 209 | 206 | 269 | 193 | 272 | 152 |
| 60. | Prairie Pipe Line | 100 | 8 | 107½ | 106½ | 111 | 100 | 117 | 93 |
| 61. | Solar Refining Co. | 100 | 15 | 205 | 204 | 230 | 170 | 212 | 161 |
| 62. | South Penn Oil | 100 | .. | 129 | 131 | 176 | 117 | 196 | 100 |
| 63. | South West Pa. Line | 100 | 4 | 77 | 70 | 89 | 68 | 89 | 66 |
| 64. | Southern Pipe Line | 100 | 8 | 89½ | 85 | 100 | 80½ | 116 | 87 |
| 65. | Standard of Indiana | 25 | 10 | 61¼ | 59⅝ | 69⅝ | 54¼ | 69⅞ | 48⅜ |
| 66. | Standard of Kansas | 25 | .. | 36 | 36⅝ | 50½ | 32½ | 56¼ | 36½ |
| 67. | Standard of Kentucky | 25 | 16 | 119⅝ | 119⅝ | 121½ | 101 | 109½ | 76 |
| 68. | Standard of Nebraska | 100 | 20 | 253½ | 225 | 262 | 198 | 280 | 186 |
| 69. | Standard of New York | 25 | 5.6 | 43⅝ | 43⅜ | 48 | 37⅝ | 49⅝ | 35½ |
| 70. | Standard of Ohio com. | 100 | 10 | 350 | *338 | 377½ | 277 | 320 | 270 |
| 71. | Swan & Finch com. | 25 | .. | 24 | 24 | 28 | 20 | .. | .. |
| 72. | Vacuum Oil | 25 | †3.75 | 80 | 80⅝ | 83¼ | 56½ | 55½ | 40 |
| 73. | Washington Oil | 10 | .. | *29 | *30 | 29 | 25 | 28 | 20¼ |
| | **Miscellaneous Stocks** | | | | | | | | |
| 74. | Cities Service bks. sh. | .. | †21 | 17½ | *16 | 19 | 13¼ | 18½ | 12¾ |
| 75. | Gulf Oil Corp. of Pa. | 25 | 6 | 65 | 64½ | 67⅝ | 56 | 68¼ | 45⅝ |
| 76. | Mutual Oil | 5 | 10 | 11⅜ | 11⅝ | 14 | 9⅝ | .. | .. |

*Bid, no sales. †In dollars. §The figures in this column are kept up to date as far as possible, but are not guaranteed. xCents per share.

The Oil and Gas Journals' weekly average price of 20 representative petroleum stocks listed on the New York Stock Exchange was as follows:

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| Dec. 22 | 50.76 | Nov. 17 | 50.07 | Oct. 11 | 45.24 |
| Dec. 15 | 50.36 | Nov. 10 | 51.86 | Oct. 6 | 46.20 |
| Dec. 8 | 49.49 | Nov. 3 | 48.16 | Sept. 27 | 46.70 |
| Dec. 1 | 49.59 | Oct. 27 | 47.58 | Sept. 22 | 47.02 |
| Nov. 24 | 50.23 | Oct. 20 | 46.99 | Sept. 15 | 47.41 |

## NORTH TEXAS GASOLINE CONTINUES TO SLUMP

FORT WORTH, Texas, Dec. 22.—The North Texas gasoline market continued to slump during the past week. The cold weather in the northern States which has reduced gasoline consumption is held responsible for the bearish feeling. During the stormy weather of the latter part of last week refiners received very few inquiries and fewer orders. The U. S. Motor 58-60 grade slumped rapidly and at the opening of the market this morning was offered as low as 7¾ cents. The same situation applied to the 64-66 grades. The 64-66, 375 was available as low at 10½ cents and 390 was selling at 10¼ cents. Other grades were lowered from ¼ to ¾ cents.

Natural gasolines are also weaker, especially Grade C. This grade was offered freely at a price range which varied from 7½ to 8 cents. The lower prices did not seem to attract the buyers. The few in the market were generally seeking the absorption grades. The production of A grades is less because of the cold weather and due to this fact the prices have not been lowered as much as they were in the other grades.

The demand for distillates has improved and several refiners are sold up for the remainder of the month. Prices are ⅛ to ¼ cent higher on all grades where prompt shipment is required. Kerosenes are still weak although prices are no lower than a week ago.

The fuel oil and gas oil demand is not quite so strong as a week ago. A few refiners who were asking $1.20 and more a week ago now have some material available for immediate shipment at $1.15. Gas oil prices are firm.

## WEATHER WEAKENING OIL CITY GASOLINE

OIL CITY, Pa., Dec. 20.—There has been a weakening in the refined market in this district during the past week, due partly to the weather and partly to the fact that the crude market has not been increased as many observers expected it would.

Gasolines are weaker. The weather has not been favorable for big consumption and the price, according to some refiners, had reached the point where there either had to be an increase in tank wagon prices or a drop in tank car quotations. Kerosene is off a little in both price and demand. Fuel oil continues to be strong. Neutrals are weak and stocks are softer. Wax continues to be very strong.

## OIL SCOUTS ASSOCIATION

A meeting of the executive committee of the National Oil Scouts' Association of America, Inc., organized last summer at Mineral Wells, will be held in Dallas at the Adolphus Hotel the morning of December 29, S. M. Semple of Wichita Falls, secretary-treasurer of the association, announces. A constitution and by-laws will be adopted.

## OKLAHOMA FIELDS

(Continued from Page 85)

pleted two wells on the Perryman farm, in Section 32-8-8; No. 5, SE cor. NW NW, 380 bbls., sand 3,210-20 feet, and No. 6 Perryman, C NE NW NW, sand at 3,119-38 feet, 155 bbls.

The Roxana Petroleum Corp.'s No. 2 Culler, C NE NW NW, Section 12-8-8, in the Roxana Pool east of Wewoka, was pumping 109 bbls. from sand at 3,425-35 feet. It was drilled to 3,445 feet in sand, and tubing was being set.

New drilling operations in Okfuskee County include Dixie Oil Co.'s No. 2 Liggon, C NE SW NS, Section 25-8-7, at 125 feet; Roxana Petroleum Corp.'s No. 1 Young, C NW NW NW, Section 16-9-8, at 220 feet.

### Stephens County

Gant and others' No. 1 Simms, CSL NE NW, Section 6-2-4w, Stephens County, was dry and abandoned at 3,007 feet.

The Humble Oil & Refining Co.'s No. 5 Ploughman, SE cor. NE NW, Section 25-1-9w, was flowing 50 bbls. from sand at 2,070-78 feet.

The Calhoun Oil Co.'s No. 1 McMahan, CWL SW NE SW, Section 18-1s-8w, was completed as a gas well for 314,000 feet in sand at 1,895-1,900 feet.

The Goldeline Oil Co.'s No. 2 Tettleton, C NW SW, Section 9-1s-9w, was dry and abandoned at 2,370 feet.

The Coline Oil Co. was rigging up a rotary for No. 2 Malicky, CEL NW NE, Section 31-1-8w.

The Carter Oil Co.'s No. 3 Cox, SE cor. NE NE, Section 25-1s-9w, was showing 8,000,000 feet of gas from sand at 2,122-30 feet.

The Magnolia Petroleum Co.'s No. 1 Jefferson, C SE SE SW, Section 14-2s-6w, was dry and abandoned at 3,710 feet. Avant Anderson's No. 3 Wilson, CSL NE NW SE, Section 17-2s-7w, was dry at 1,416 feet.

The Knox Petroleum Co.'s No. 3 Pettigrew is underreaming the 10-inch at 505 feet. The C. & O. Drilling Co.'s No. 2 Warner, SW cor. NE, Section 22-1s-8w, was drilling at 600 feet. The Pauline Oil Co.'s No. 1 Qualls, NE cor. SW, Section 22-1s-8w, was dry and abandoned at 2,650 feet.

### Other Oklahoma Operations

The Shaffer Oil & Refining Co.'s No. 11 Laughlin, NE cor. SE NE, Section 2-18-5, Payne County, is rigging up.

The Sinclair Oil & Gas Co.'s No. 17 Walker, SW cor. NE NE, Section 13-22-4w, Garfield County, was spudding at 59 feet. The Knox Oil Co.'s No. 2 Coker, NE cor. Section 26-22-4w, was swabbing 6 bbls. on test in sand at 1,165-1,200 feet. The Alcorn Oil Co.'s No. 1 Miller, SW cor. Section 22-21-4w, was dry at 3,510 feet.

Heidrick and others' No. 1 Moore, C NE NE SE, Section 18-6s-5w, Jefferson County, was drilling at 525 feet. The Humble Oil & Refining Co.'s No. 1 Moore, C SE NE SE, Section 29-6s-5w, was drilling at 460 feet.

The Healdton Petroleum Co.'s No. 1 Mullen, C NE NE NW, Section 9-4s-4w, was dry and abandoned at 3,092 feet.

Overly, Krohn & Kirkwood's No. 2 McAdam, SW cor. NE, Section 7-2s-18w, Tillman County, was shut down at 875 feet. Lufborough and others' No. 1 Gibson, C SE SW, Section 34-1s-17w, was abandoned at 75 feet.

Steve Nelson's No. 1 Brown, NW cor. NE SW, Section 35-9-25w, Beckham County, was rigging up. La Vista Oil Co.'s No. 1 Smith, CSL NE SE SE, Section 5-8-25w, was dry at 1,308 feet.

The Tidal-Osage Oil Co.'s No. 15 Neil, SW cor. NW SW SE, Section 15-23-2w, 2 miles south of White Rock, Noble County, was dry and abandoned at 2,720 feet.

Lancer and others' No. 1 Davidson, NW cor. Section 15-29-1, Kay County, was drilling at 485 feet.

### Dry and Abandoned

The Firestone Oil Co.'s No. 1 School Land, NW cor. SE, Section 36-11-3w, Oklahoma County was dry and abandoned at 4,479 feet.

Kissler & Cochrane's No. 1 Cooper, SE cor. Section 28-19-10, Tulsa County, was abandoned at 2,795 feet.

Minshall and others' No. 2 Murphy, CEL SW SW SE, Section 2-18-13, had 4,000,000 feet of gas shut in at 1,365-67 feet. The Frates Oil Co.'s No. 3 McHenry, SW cor. NW SW NE, Section 1-17-14, was flowing 35 bbls. after a 30-quart shot at 1,263-81 feet. The Penn Oil Co.'s No. 1 McHenry, CSL NW NE, Section 1-17-14, was dry at 1,280 feet.

The Magnolia Petroleum Co.'s No. 2 Hall, NW cor. SW NW, Section 29-1s-8w, Stephens County, was flowing 180 bbls. from sand at 2,403-07 feet. The same company's No. 1 Johnson, SW cor. Section 18-1s 8w, was drilling at 1,965 feet. The Lone Star Gas Co.'s No. 4 Clarkson, SE cor. SW NW, Section 20-1s-8w, was drilling at 800 feet.

The Amerada Petroleum Corp.'s No. 4 Clay, SE cor. SW NE, Section 28-5s-1, in the Brock Pool, Carter County, had a showing of 157 bbls. from sand at 1,060-75 feet. This well extends the pool one-eight mile to the southeast.

Flanagan and others are fishing for tools in No. 1 Charles, CNL NE NE, Section 33-17-16, Wagoner County.

The Magnolia Petroleum Co.'s No. 2 Burgman, SE cor. NW SE, Section 16-20-6, in Pawnee County, topped sand at 2,998 feet and found oil at 3,035-70 feet. The well was good for 100 bbls. after a 40-quart shot.

The Shaffer Oil & Refining Co.'s No. 9 Laughlin, NW cor. NW NE, Section 2-18-5, Payne County, was shut down with 8,000,000 feet of gas from a sand at 3,263-70 feet.

P. Briscoe's No. 2 Reed, CWL NW SW, Section 25-5-8w, Grady County, was shut in with 38,000,000 feet of gas from broken sand at 2,136-2,461 feet.

## ASK FEDERAL CONTROL OF NATURAL GAS LINES

TOPEKA, Kan., Dec. 20.—The Kansas Public Utilities Commission has asked the members of Congress from Kansas to try to have enacted an amendment to the Interstate Commerce Law a new section that will give the Interstate Commerce Commission control over the natural gas pipe lines.

By the rulings of Kansas courts and Federal courts, the supervision of the public utilities commission has been removed from the rates and service of the pipe line companies. The Interstate Commerce Commission contends it has no authority to make any regulations or establish any rates for these carriers.

E. T. Hackney, member of the Kansas commission, has sent to Senator Curtis a proposed bill which would give the Interstate Commerce Commission authority over the pipe lines. Mr. Hackney's letter declared the results in Kansas of a failure to regulate the gas pipe lines have been disastrous and the pipe line companies are able to dictate their own terms and control the natural gas situation in their own way without regard to the rights of the people.

## ENGINEERS NEEDED

An examination for junior engineer will be held throughout the country on January 21. It is to fill vacancies in various branches of the Government service, at an entrance salary of $1,860 a year. Advancement in pay may be made without change in assignment up to $2,400 a year.

Examination will be given in the optional subjects of petroleum engineering and mining engineering.

The duties of these positions are to perform such work as routine testing, drawing up plans for minor projects, performing field work, making computations, compiling reports, handling technical correspondence, and other related work.

Competitors will be rated on general physics, pure mathematics, practical questions on the optional subject chosen, and education, training, and experience.

Full information and application blanks may be obtained from the United States Civil Service Commission, Washington, D. C., or the secretary of the board of U. S. civil-service examiners at the postoffice or customhouse in any city.

Symbolical of
QUALITY
in Oil Field Boilers

Sixty-one years of experience building boilers, meeting the requirements of the most exacting users and always conforming with regulations is the accomplishment of this company.

*They have always led*
*—others follow*

D. F. Connolly Agency, Inc.
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608 First Nat'l Bank Bldg.
Louisiana, Arkansas and Houston, Texas—
Petroleum Supply Co.

**25 CENTS** per line first insertion; 15c per line each additional insertion. Cash in advance.

# CLASSIFIED WANTS

**MAIL** your advertisement now. It will be published next week. Cash with order.

### LEASES—PRODUCTION

FOR SALE—Oil leases near drilling wells Logan and Kingfisher Counties. Seven wells going down. H. M. Godfrey, Crescent, Okla.

OIL AND GAS LEASES
On Marathon Fold

20,000 acres, new 20-year, 88 Form lease; Pecos County; 10 cents rental.

18,000 acres, University permits, dated October 1, 1924, joining University permits of Sun Oil Co. and Gulf Production Co. Transcontinental now drilling and three more well to start. Price reasonable.

20,000 acres 10-year leases, Crockett County; large and small blocks.

5,000 acres 10-year lease; close to drilling wells; Reagan County.

3,200 acres University permits, Reagan County; close to Big Lake Oil Co. and Texon Oil & Land Co. producing wells. Want drilling contract.

3,000 acres 10-year lease, Upton County; near drilling well and joining leading company holdings. Prices and maps on request.

C. W. WEBSTER
1716 W. T. Waggoner Bldg.
Fort Worth, Texas

FOR SALE—At bargain prices, oil and gas leases, production and royalties in the Kentucky shallow fields. For full particulars and maps, address W. P. Harley, Bowling Green, Ky.

REAGAN COUNTY LEASES

$3.50 an Acre

TEXAS OIL MAP FREE

Leases 4 miles north of Wrightsman test in Reagan County can now be had for $3.50 an acre. Well is now drilling. Mr. Wrightsman is a very successful operator from Oklahoma. Many big companies hold leases nearby. We also have many other leases along Marathon Fold and Balcones Fault. Here are a few of them:

| | |
|---|---|
| Gaudalupe County | $3.00 an acre |
| Pecos County | 1.00 an acre |
| Medina County | .50 an acre |
| Gillespie County | .10 an acre |
| Kerr County | .25 an acre |
| Atacosa County | 2.00 an acre |
| Karnes County | 2.00 an acre |
| Zapata County | 1.25 an acre |
| Bexar County | 3.00 an acre |
| Hays County | .30 an acre |
| Sterling County | 1.00 an acre |
| Coke County | 1.00 an acre |
| Irion County | 1.50 an acre |
| Bandera County | .40 an acre |
| Wilson County | 3.00 an acre |
| Comal County | .35 an acre |
| Travis County | .35 an acre |
| Terrell County | .75 an acre |
| Concho County | 1.50 an acre |
| Nolan County | 1.00 an acre |
| Schleicher County | 1.00 an acre |
| Sutton County | 1.00 an acre |
| Reagan County | 3.50 an acre |
| Crane County | 1.00 an acre |
| Upson County | 1.00 an acre |

The above are prices in tracts of 10 acres. Prices are less for larger tracts. All leases are now 5 or 10-year commercial leases giving the buyer seven-eighths of the oil and requiring no drilling. Get our free may of Texas showing Balcones Fault and Marathon Fold and our list of leases before you buy elsewhere. We will save you money. Write today. No obligation.

GULF REALTY CO.
293 Bedell Bldg., San Antonio, Tex.

FOR SALE in the Kentucky oil fields 45 bbls. settled production; lots of room on lease for additional development. Address W. P. Harley, Bowling Green, Kentucky.

### LEASES—PRODUCTION

FOR PANHANDLE oil leases and drilling contracts write Dr. W. R. German, Canadian, Tex.

J. F. MARION COMPANY
Magnolia Building
Dallas, Texas
Buys and Sells
Texas and Oklahoma
Producing Royalties
"Ask Us First"

MONTANA—3,500 acres on an extension of the Cat Creek anticline. Washington State lease holdings and options in this new field now rapidly developing, capital required for development or will sell interest for development. Representative now in New York City. Box A-542, The Oil and Gas Journal, 30 Church St., Room 543, New York City, New York.

WILL GIVE 3,000-acre lease in semi-proven territory on top Jewet Structure, in Grant County, Arkansas, for drilling test well. Log 2,020 feet furnished. Good chance for party wanting to develop new oil field. Write Box 681, Little Rock, Ark.

### LEASES—PRODUCTION

WE CAN DELIVER several large blocks of acreage on drilling contracts; also seveal blocks for nominal cash consideration; all favorably located in Kansas with excellent possibilities for oil. Box A-520, The Oil and Gas Journal, Tulsa, Okla.

FOR SALE BY OWNER—Interest in several shallow settled producing properties, Southeastern Kansas. Several locations to drill. Very reasonable. No brokers. Box A-531, The Oil and Gas Journal, Tulsa, Okla.

ATTENTION

I own property ninety-five feet from a producing well owned by the Vick Oil Company, just brought in, located in Hallett, Oklahoma, Section 4, Township 20, Range 7. Adjacent Jennings Field. I desire communication with men financially able to sink oil well on a percentage basis. Address L. B. Proctor, 511 Deere Bldg., Dallas, Texas.

100 ACRES—2 miles from 2 drilling wells; best structure in Jefferson County. For quick deal $25 per acre. J. G., Box 153, Ringling, Okla.

FOR SALE—Four hundred acre lease, one-quarter mile from Wilcox test, in Elk County, Kansas. Also two hundred acres, on good structure, in Chautauqua County Kans, Box A-540, The Oil and Gas Journal, Tulsa, Okla.

### LEASES—PRODUCTION

WELL PLEASED

One of the advertisers in the Classified Wants Section writes as follows: "I have just arrived home. I am well pleased with results. I have inquiries from Tulsa, Enid, Oklahoma City, Dallas, Fort Worth, Los Angeles, Altoona, New York City, Pittsburgh, Geer, Va., Mobile, and many other places. I will mail another ad about December 15."

OIL LEASED PROPERTIES TO BE DEVELOPED IN TENNESSEE

Half interest in 10,000 acres offered to parties who will drill or finance the drilling of a test well to the depth of 3,000 feet. These properties are located in East Tennessee north of Knoxville. They are also located a few miles south of the Cumberland Mountain Ranges where the large coal developments are situated. Geologists have pronounced this to be excellent structural conditions for the production of both oil and gas. We are confident that we will open a wonderful oil producing territory. However, it will be a wildcat proposition. Past records show that wildcat operations in some cases prove to be some of the biggest oil producing developments, and the chances are our location will prove that it is in this case. Every indication from the latest Government oil and gas map shows that we are located in the oil belt of the great Eastern and Western producing fields. We are so positive that we are right in the heart of a big oil pool is the reason for the necessary time and expense to secure the leases on these lands. We are anxious to connect up with parties who will assist in the financing of the test well on these properties. For further information address R. H. Whittle, Knoxville, Tenn.

DRILLING BLOCKS my specialty; wells drilling nearby. F. E. Waldrop, Nashville, Ark.

WE OFFER 80-acre lease in the shallow oil field 300 to 500 feet deep, Clark County, Illinois, for $1,200. We will complete a well 200 feet offset 500 feet deep if necessary to make a well. Box 192, Rockville, Ind.

LEASES—Southeast Kansas being re-drilled; chance for shallow, and Wilcox sands. Cheap drilling; Wilcox, 1,200 to 1,600 feet; don't miss this play while acreage is reasonable; $2 to $5 per acre. Write, Lapham & Co., Chanute, Kans.

BIG CREEK oil field 25-acre lease for sale. Only close-in lease on market. Near drillings. Address M. H. Rogers, 1204 West Drew Ave., Houston, Tex.

LEASES and drilling contracts proven and semiproven; 40 acres to 10,000 acres; Hutchinson County, Texas.

R. P. O'GRADY
Suite 2 Old Post Office Bldg.
Amarillo, Texas

GOOD OIL LEASES

Skilled oil men who desire to secure large acreage oil leases, with low royalties, on lands in Wyoming held and owned outright under old seasoned incontestable U. S. patents; free from all National Government or State royalties or interference or litigation, and in the best largest oil field in Wyoming, in the same identical geological structure where huge high grade oil production has been going on for 15 years and will surely continue for 20 years to come; are invited to communicate with the sole lessee, James D. Negus, 104 South Centre St., Casper, Wyo.

DOME DEVELOPMENT by use shallow test rigs at small expense draws claws from wildcatting, reducing the costs of prospecting to sound business basis. Method endorsed by highest authorities. Now operating. Desire business men to investigate with view of investing. James W. Rich, Oil Operator, 401-2 Bankers Mortgage Bldg., Houston, Tex.

## Greetings

May the 1924 Christmas Season bring you an abundance of happiness and good-will that will live all through 1925—the coming year of prosperity.

The Oil and Gas Journal

CLASSIFIED WANTS SECTION

FOR LEASE, 205-acre farm, oil and gas land on Beaver Creek, 5 miles west of Glasgow and less than 1 mile of railroad station. Farm being north of the Emery Noose Pool and joining the Taylor-Bishop farm, where the best wells are coming in. Price $25 per acre. David Samson, Box 401, Glasgow, Ky.

200 ACRES near Prairie Company's new Wilcox sand well, Montgomery County, Kansas, Section 31, Township 32, Range 15. Prairie Company's well is on Section 21. This 200 acres has three Bartlesville Sand wells pumping, fully equipped and on line. Will sell outright or sublease for Wilcox test. P. H. Ball, Box 251, Independence, Kans.

NORTH TEXAS

Shallow field leases, including offsets, at low prices. Offsets to producing leases in Archer County have sold as high as $900 cash per acre. Chance for excellent profits. Write for maps and prices. P. R. MacIntosh, 215 Neil P. Anderson Bldg., Fort Worth, Tex.

ATTRACTIVE BLOCK, solid, University lands, Crockett and Reagan Counties, for sale or drilling. P. R. MacIntosh, 215 Neil P. Anderson Bldg., Fort Worth, Tex.

I HAVE six thousand acres under lease (five years, one dollar rentals) in southern Oklahoma on structure.

Spent all my money on one test well with rotary rig. I now want an experienced party who is capable and financilaly able to drill another test on this sturcture.

I have information from first well showing just where tests should be made before drilling deper.

I have complete rotary rig and can secure string of cable tools.

If interested, state what you are in position to do. Don't care to hear from promoters.

Address Box A-543, The Oil and Gas Journal, Tulsa, Okla.

ROYALTY
"Buy from the owner"

Owner will sell one-half perpetual royalty on lands located in active territory, between two drilling wells. Twenty acres or more price $2.50 per acre. Terms if desired. Address "Owner," P. O. Box 1036, Fort Worth, Texas.

OIL LEASE for sale on structure in the principal districts of the new Colorado oil fields. Central Oil Co., Security Bldg., St. Louis, Mo.

TEXAS PANHANDLE leases for sale in Block Y, Hutchinson County. Practically proven. H. T. Orcutt, 816 Colcord Bldg., Oklahoma City, Okla.

**25 CENTS** per line first insertion; 15c per line each additional insertion. Cash in advance.

# CLASSIFIED WANTS

**MAIL** your advertisement now. It will be published next week. Cash with order.

## LEASES—PRODUCTION

FOR SALE — 15,200 acres Montana land with 95 per cent oil rights; 85 per cent of land tillable. Near good town and railroad. Can give clear title. Land lies in oil structure. Can furnish geology. Owner will take $9 per acre for quick sale. Box A-537, The Oil and Gas Journal, Tulsa, Okla.

FOR LEASE—200 acres and more for gas or oil located 40 miles below New Orleans. S. R. Gabel, Nero, La.

AT BIG CREEK oil field, southeast side of dome, I have financed one drilling; want to interest parties to finance another drilling on my 10 acres adjoining. Will personally superintend operations. James W. Rich, Oil Operator, 401-2 Bankers Mortgage Bldg., Houston, Tex.

NEW MEXICO OIL LEASES
We still have some very desirable selections in ten counties at 25 cents per acre.
Perfect title and very low rental.
For maps and particulars write us.
NEW MEXICAN EAGLE OIL CO.
Sapulpa, Okla.

OIL PROMOTER, needing cash, will sell one-sixth interest in wildcat near Glasgow, Mont.; 10,000 acres on structure blocked solid. Splendid report and map by Mutual. About to be drilled. Under contract you will receive share in royalties averaging 4 per cent on 5,000 acres of top acreage. For quick deal will take $2,000. Should appeal to a real oil man. H. H. Waldron, Froid, Mont.

FOR QUICK SALE small lease in S. E. El Dorado field, mile from production, $50.00. Also 4,000 acres in Mississippi, geologically as good as any in State. First offer gets it at 5c an acre. Dr. Southerland and Bodine who drilled the Hoover discovery well at Billings, have good news for you both. Bio Bill, care Ratio Development Co., Inc., Russelville, Ark.

## FOR SALE—REFINERIES

FOR SALE — Good small refinery in El Dorado, Kans., priced low for quick sale. A. F. Williams, Box 28, El Dorado, Kans.

2,000-BARREL Refinery at Jennings, Okla., to be wrecked and sold all or any part. C. T. Benner, Box 301, Jennings, Okla., Phone 31 and 142.

## FOR SALE—EQUIPMENT

PIPE FOR SALE
We offer the following used gas line pipe for sale:
31 miles 3-inch
15 miles 6-inch
10 miles 8-inch
20 miles 10-inch
Write us for prices.
BAUR GAS CO.
Eaton, Indiana

PIPE
All Sizes, Rethreaded, Coupled, Ready for Use; Immediate Delivery
Absolutely Guaranteed
D. WOLFF & SONS
2213-23 So. Fourth St. St. Louis Mo.

BESSEMER Gas Engines, 15- to 165-h.p., other makes 300-h.p. Oil and gas and steam engines, compressors, generators, complete gasoline plants. R. W. Russell, St. Marys, W. Va.

For Sale
OIL ENGINE UNIT
One 150-KW Fort Wayne compound wound direct current generator, 250-volt, 600 amperes, 164 R. P. M., direct connected to.
One 225-h.p. Busch Sulzer Diesel vertical oil engine, 3-cylinder, size 16-inch by 24-inch.
THE NATIONAL POWER MACHINERY CO.
1911 Scranton Road Cleveland, Ohio.

FOR SALE — Three Bessemer gas engines, 25 h. p., first-class condition. Straight clutch. Priced to sell. Ready to load. Standard Pipe & Supply Co., Box 509, Phone 870, Marietta, Ohio.

## FOR SALE—EQUIPMENT

LINE PIPE

For immediate shipment, we offer the following first-class used line pipe:

| | |
|---|---|
| 10 miles | 2 inch |
| 12 miles | 3 inch |
| 13 miles | 4 inch |
| 15 miles | 4 inch (new) |
| 12 miles | 6 inch |
| 4 miles | 8 inch |
| 4 miles | 10 inch |

Also in position to furnish various sizes of one-run casing.

PLAIN END PIPE FOR GAS LINES

50 miles Odee plain end pipe, 3 in. to 6 in. in diameter, in double joints of 35 to 40 ft.; guaranteed in first-class condition. Our prices will enable you to effect a saving of about 50 per cent and cut your installation cost in half, by reason of the double joints.

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Department O St. Louis, Mo.

FOR SALE — Drilling machine and tools complete. "No. 2 National" in perfect condition. Tools also in first-class condition. Ready to drill well. Location, Mingo Junction, Ohio, near railroad. Standard Pipe & Supply Co., Box 509, Phone 870, Marietta, Ohio.

FOR SALE
Two 32-h.p. Pattin Brother gas engines, complete with magneto ignition; can be seen running close to Tulsa; $700 each.
One 7-12x13x10 cross compound Worthington expander with Laidlaw valve. New condition, cost $3,550, f.o.b. factory, will take $1,500.
Two 60-h.p. Bessemer gas engines, $350 each.
Two 70-h.p. Bessemer gas engines, $350 each.
SOUTHLAND GASOLINE CO.
Box 1027 Telephone 9227
Tulsa, Okla.

FOR SALE—Complete standard string tools from 15½ in. down to 6⅝ in. Address J. G. Hunt, 1217 Johnstone Ave., Bartlesville, Okla.

FOR SALE—150 feet of 70-pound 15½-inch; 1,000 feet 40-pound 10-inch; 2,700 feet 8¼-inch 32-pound 8-thread and 3,400 feet of new 24-pound 6¼1-inch 10-thread J. & L. Woodlawn. Special casing; 100,000 feet of 2-inch line; 20,000 feet of 2-inch tubing and rods; also excellent powers, engines, tanks and other equipment. J. F. Arnold Co., Decatur, Ind.

FOR SALE—Twenty 500-bbl. steel bolted tanks, second-hand, but all in excellent condition. Will sell all or any part of these tanks for $250 each. Tanks now located in northwest fiield, Burkburnett. W. F. Hendren, 521 Staley Bldg., Phone 5900, Wichita Falls, Texas.

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GAS ENGINE UNIT
One 250-KW Crocker-Wheeler compound wound direct current generator, 250 volts, 3-wire, 225 R.P.M. direct connected to.
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RIDLEY MACHINE WORKS—Repairing and building of all kinds of machinery; patents perfected; welding and gear cutting; automobile parts made and repaired. Jefferson and Southwest Blvd., Phone Harrison 5924, Kansas City, Mo.

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3,000 GALLONS Blue Sublimed Lead paint made on the following specification: 52 per cent Blue Sublimed Lead, 48 per cent Pure Boiled Linseed Oil. Good for priming or repainting on wood or metal—sample on request. Will sell any or all at bargain. Write W. H. Hoover, 4917 Main St., Kansas City, Mo.

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## POSITION WANTED

ELECTRICAL Engineer, thoroughly experienced in design of electrical equipment in refinery, desires position in Tulsa; best reference; formerly with Sinclair. Box A-481, The Oil and Gas Journal, Tulsa, Okla.

TAX ACCOUNTANT—Accountant experienced in ad valorem tax appraisals and levies, wishes position with oil company. References given. Address Box 602, El Dorado, Kans.

EXPERIENCED Salesman familiar with both lubricating oils and gasoline, that has been selling the jobbing trade in Wisconsin, Minnesota, South Dakota, and Iowa for the past seven years desires to make a change January 1.
For further particulars address Box A-541, The Oil and Gas Journal, Tulsa, Okla.

GENERAL CONSTRUCTION foreman, familiar with all classes of concrete foundation work and machinery installation; steel, brick and wood construction; general pipe work, pump stations and gasoline plant construction. I will demonstrate my ability with any reliable company before taking up the matter of salary I shall receive. Box A-536, The Oil and Gas Journal, Tulsa, Okla.

## HELP WANTED

SALESMEN calling on drilling and producing trade, gasoline plants, and pump stations, offer a high class profitable line with established trade. Territory North Texas, Southern Oklahoma, Louisiana, and Arkansas. Would consider placing as side line. Strictly commission. Give reference and past experience. Box A-534, The Oil and Gas Journal, Tulsa, Okla.

## HELP WANTED

WANTED — Representative for Mid-Continent Field; must be experienced. Reply stating past and present positions, salary expected and full details in first letter. Reply, Rope, The Oil and Gas Journal, Tulsa, Okla.

## WANTED

WANTED — Producing royalties. Leases offsetting drilling wildcats. Blocks acreage for tests. Box 14, Fort Collins, Colo.

WANTED—Twent miles of 6-inch pipe line, also 2,500 feet of 6¼-inch well casing. Wire prices to Indian Prairie Oil & Gas Co., Sebring, Florida.

BROKERS to handle Eastern New Mexico leases. Excellent geology. Also Archer, Vernon, Olney and public utility offerings. W. A. Smith, Waggoner Bldg., Wichita Falls, Texas.

WANTED—To buy a Star No. 28, No. 30 or National portable drilling rig. Outfit must be first class and price low. Give full description and lowest cash price in first letter. Box A-538, The Oil and Gas Journal, Tulsa, Okla.

WANTED — Information regarding zinc, lead, antimony, bauxite, gold and silver deposits, and oil structures in Oklahoma and Texas. Box A-463, The Oil and Gas Journal, Tulsa, Okla.

## WANTED

WANTED—One or more associates to help me finance drilling several shallow and deep test wells in semi-wildcat fields. Have leases and permits on 288,000 acres. Some patented land balance Government lands. Situated Texas, Utah, California, Oklahoma and Kansas. Some big companies willing to drill on overriding royalty willing to let them have play; prefer to have closed corporation and test out several choice locations and if we hit to then sell well and some acreage. Big operator write me. Box A-539, The Oil and Gas Journal, Tulsa, Okla.

WANTED—Producing royalties. Oklahoma and Kansas. Give full details. P. O. Box 502, Independence, Kans.

WANTED IN NORTHERN TEXAS
Blocks or offset acreage on structure, must stand close investigation and will deal only with principals. Submit maps and all data. Box A-521, The Oil and Gas Journal, Tulsa, Okla.

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EIGHTY ACRES, well improved, irrigater Colfax County, New Mexico; clear, water rights paid; trade for something closer here. Owner, Rees, 4020 E. 27th, Kansas City, Mo.

FARM INVESTMENTS
We have four high grade, well improved and well located farms for sale at investment prices. Write H. W. Crowe, Box 112, Columbia, Mo.

## BUSINESS OPPORTUNITY

Form your own company or incorporate with others, and colonize rich, low-priced agricultural land in
MEXICO
Investment safe; profit attractive; large capital not necessary. I make the building of a community a success by handling intelligently Agricultural Surveys, Soil Surveys, Production Surveys, Marketing Surveys; Purchasing, Financing and Colonizing Methods; Community Planning and Development Work. Industrial Engineer, Box 1064, El Paso, Texas.

FOR SALE
Best trackage property in Springfield —1½ acres centrally located—on paved street; suitable for manufacturing, or wholesale oil distributing station. J. Blaine Berry, 705 E. Brower St., Springfield, Mo.

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Industrial site and oil prospect near Houston, Texas. Fronting on ship channel. J. A. Stephens, owner, Box 789, Shreveport, La.

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RESPONSIBLE DRILLERS — Acreage proposition for drilling contracts. Oil information. Farms and ranches. F. J. Shindler, Deer Trail, Colo.

CORE DRILL your structure with diamond drills and reduce the hazard of wildcatting. Let us help your geologist correlate structure before you put cable tools at work. The cost is relatively small and the possible saving enormous. On well located tracts we will accept acreage in lieu of profits. Drilling Corporation of America, George H. St. Clair, General Manager, 205 Cosden Bldg., Tulsa, Okla. Phone 3-9031.

Additional Classified Adertisements on following Page

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**GALVANIZED SHEETS**

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## VENANGO PRODUCERS APPOINT COMMITTEES

FRANKLIN, Pa., Dec. 20.—Following the meeting of the oil producers of Venango County on December 10, David B. McCalmont has announced the following executive committee to act on grievances and finance: David B. McCalmont, J. C. Kilgore, W. D. Doyle, Robert Lamberton, Franklin; George H Torrey, Claude Slicker, John K. Earp, Oil City.

This committee is divided into two sub-divisions: A committee on taxation consisting of W. D. Doyle, George H. Torrey, Robert Lamberton, and a committee on refinery cooperation consisting of J. C. Kilgore, Claude Slicker, John K. Earp.

It was this committee that Mr. McCalmont's plan for refinery cooperation was referred. This was to request each refiner to offer 50 per cent of its available crude storage to the producer in case of a renewal of the embargo on the following terms:

Producer to order his oil run to the refinery by the pipe line; refiner to agree to store this oil for the producer for a period of not exceeding six months, charging the producer the regular storage rates. The producer to agree to sell the balance to that particular refinery some time during the six months in question.

To this committee was also referred the resolution of Walter W. Miller recommending that the price of oil be immediately raised to $3.25 per bbl. and that the producer should agree to sell his current production and 10 per cent of his stored oil at that figure; also, the producer to agree not to accept outside premiums for a period of 90 days.

## ATLANTIC TO APPEAL

PHILADELPHIA, Pa., Dec. 20.—Atlantic Refining Co. intends to appeal from the decision of the Federal Court at Wilmington, Del., ordering it to reimburse Superior Oil Corp., $3,500,000 as result of suit alleging fradulent concealment of purchase of 825,000 shares of Superior Oil stock at $8 a share, when market price was $16. Counsel for Atlantic Refining Co. are now preparing answer to United States District Court. In handing down the decision on July 10, last, the court set no date for payment of reimbursement to Superior Oil.

25 CENTS per line first insertion; 15c per line each additional insertion. Cash in advance.

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Consulting Petroleum Refinery Specialist.

Plans, specifications, costs for refineries, inspections, and appraisals made for purchasers, processes investigated. Advice on investments, manufacturing difficulties, excessive costs and losses overcome. Refining value of any crude ascertained, 25 years practical experience in all branches of the refining industry.
P. O. Box 264. Telephone 275
Coffeyville, Kans.

CAREFULLY COMPILED summary of oil prospecting and development in the San Juan Basin to date, mailed for $1. Township maps showing permit and leaseholders for $1. Gip Smith, Aztec, New Mexico.

### INCORPORATIONS

DELAWARE incorporator. Charters, fees small, forms. Charles G. Guyer, 901 Orange St., Wilmington, Del.

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Every job is the job with us. Direct Mail Advertising Specialists—Multigraphing, Mimeographing, Mailing Lists. Complete Mail Campaigns from you to your prospect's desk.
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MAILING LISTS
Oil and other stockholders
in over 1,000 companies; 1260 Texon Oil & Land Co. $10.00. 3455 Ralph Dudley Oil Co. $25.00 and 600 other oil companies. Write for detailed price list.
A. F. Williams, Mgr.
166 W. Adams St.
Est. 1880 Chicago, Ill.

### LETTERHEADS—PRINTING

SAY IT WITH PRINTING. Basic Bond Letterheads $3.50, envelopes $2.50, Get our quantity prices. Creative Advertising Department. Safety Printing Co., Box 276 Rock Island, Ill.

OIL FIELD LEGAL BLANKS—Leases, assignments, releases, township plats, gauge books, run tickets, time books, well records, etc. Request on your letterhead gets free catalog. Olds Press, 215 East Third St., Tulsa, Okla.

CONSUMERS' LEDGERS
We are prepared to furnish from stock standard forms of Gas Meter Consumers Ledges. Sample forms and quotations on request. First class material and workmanship.
DERRICK PUBLISHING CO.
Oil City, Pa.

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Installation of Powers
All Work Guaranteed
Estimates Cheerfully Given
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### CHEMISTS

CHICAGO, ILL.—Benedict Laboratories, Ruprecht Bldg. Consulting and analytical chemists, specialists in cutting, lubricating, tanners, tempering and transmission oils and greases.

### FOR SALE—DOGS

GERMAN POLICE DOGS
and puppies at greatly reduced prices. We are offering 12 of the best imported prize-winning females in America; also and excellent 18 months old Sch. H. trained imported male, with a wonderful pedigree and disposition, and some choice three and five-month old puppies. Get our prices. Shadycrest Farm Kennels, Route 4, Independence, Mo.

REGISTERED Bull Pups—Bulldog Park, 501 Rockwood. Dallas, Texas.

### FOR SALE MAPS

FREE
Geological Oil Map of the new San Juan Basin fields of New Mexico. Remarkable development now under way—2,500-bbl. wells from 700 feet; oil is 60 gravity Baume; several new fields opening up; new refineries; pipe lines; roads; splendid opportunities for operators and investors in leases and royalties. Write today for accurate maps and report, sent free to Journal readers.
OIL EXCHANGE & BOARD OF TRADE
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### TOO LATE TO CLASSIFY

20 MILES of 6-inch line pipe and 20 miles of 3-inch line pipe, with good threads and couplings. This pipe has been used for oil and is in A-1 condition. For more particulars write to the Ohio Iron & Supply Co., Lima, Ohio.

FOR SALE—National drilling rig and tools in good condition, located at Severy, Kans. Apply to Attorney Carl Ackerman, Sedan, Kans.

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Protect the investor—he is entitled to it. Our system will move your securities faster and will engender an element of thrift. Call or write for information.
PROTECTOBOND
2019 W. T. Waggoner Bldg.
Fort Worth, Texas.

## ROCKY MOUNTAIN AREA

(Continued from Page 44)

Field in Montana since the field first opened:

| Month— | 1922 | 1923 | 1924 |
|---|---|---|---|
| January | ..... | 21,782 | Shutdown |
| February | ..... | 19,416 | 2,621 |
| March | ..... | 25,694 | 29,258 |
| April | ..... | 26,765 | 120,575 |
| May | ..... | 35,584 | 113,236 |
| June | ..... | 38,727 | 92,042 |
| July | 1,172 | 99,809 | 103,334 |
| August | 2,752 | 127,504 | 136,091 |
| September | 7,356 | 121,524 | 158,316 |
| October | 5,978 | 65,914 | 129,590 |
| November | 19,940 | 17,237 | 100,308 |
| December | 13,897 | 8,599 | *100,000 |
| Total | 51,095 | 608,555 | 1,076,371 |

*Estimated.

### Sunburst Gusher

The Sunburst Oil & Gas Co. found a new gusher in the Ellis sand on Section 4-34-2 in the Sunburst Field in Toole County, Montana. This is the Corey lease being drilled by the Johnson Oil Syndicate on the section that brought in the big gushers last spring. The well at present is shut in and no test of the production has been made, the estimates vary all the way from 1,500 to 5,000 bbls. per day and the more conservative operators place the well as 2,000 bbls. which is considered a good figure. This well found a good flow of gas in the Sunburst sand at 1,245 feet that is estimated at 1,000,000 feet and then went on to the Ellis sand for its gusher production. The Ellis sand was found about 1,500 feet.

The Oil Producers Syndicate, drilling on Section 24-35-2, brought in a good well estimated at 75 bbls. in the Ellis sand at 1,495 feet and Crumley & McKnight found a producer on Section 4-34-2 that will make a small well. This hole also has some water coming in with the oil.

The Big West Oil Co., drilling on the Allen lease on Section 31-35-1 on the east side of the field found a producer good for 500 bbls. in the Ellis sand at 1,430 feet. This location is well over on the east edge of the field and will attract considerable attention to that portion as it is the largest well struck there in some time.

The deep test of the Potlatch Oil Co., being drilled as a test of the lower horizons in the Sunburst Field on Section 21-34-1, is drilling at 4,335 feet in shale. So far this test has shown a gas horizon in the Madison lime and no oil.

The Louis Oil Co. drilled to the Madison on the west side of the field and failed to find production; the Ellis sand was found water bearing at 1,518 feet. A showing of oil was found at 1,475 feet that would not make a commercial producer.

### North Casper Creek

The North Casper Creek structure that gave promise last summer, now looks like a dead one. The Midwest has abandoned its well and the other firms interested have abandoned or are considering doing so. The Midwest well did not find commercial production on the top of the structure and the California Oil Co. also failed to find anything down on the slope while the Columbus Oil Co. found a duster also. The operation is about 35 miles northwest of Casper and because the Midwest well found a good showing of gas about 900 feet last spring, the area looked like a new field. The Frontier sands were found close to the surface, but the Dakota formation and the black oil sands below were barren or wate-

### Big Horn Basin

In the Big Horn Basin, the Ohio Oil Co. is drilling two interesting wells. On the Hidden Dome, southeast of Basin, the hole is at 1,100 feet and the drillers have taken all the iron from the hole that caused a bad fishing job for some time past, through the loss of a bailer. In the Oregon Basin the Ohio is putting down a deep test with a rotary outfit now at 1,610 feet and making good time in the big hole. Ache & Flynn are also drilling another test in the Oregon Basin and the Fifty-Six Oil Co. of Montana has also started a third well there.

The Twenty-Four Oil Co., which has been operating in the Torchlight Field in the Big Horn Basin, went into the hands of a receiver and the effects were sold last week at Basin. The outfit was purchased by J. E. Scanlon, an oil man from Wisconsin.

The California Co.'s well in the Bayou Field that looked like a new discovery for a time is drilling deeper. This well is on Section 34-56-96 and the showing was found at 2,769 feet. It is now intended by the company to drill the well to the Dakota and see what that formation contains; this sand should come in about 4,000 feet. The well is making some gas, but the oil has about disappeared.

The Casper Oil Syndicate's well drilling outside the city limits of Casper is shut down during the cold weather. The hole is at 1,817 feet and below the first Wall Creek sand. It is expected to start work again shortly to complete the hole to the second Wall Creek.

The Midwest Refining Co. completed four new producers in the Salt Creek Field during the past week. The Mountain & Gulf, on Section 6-39-78, found the second Wall Creek sand at 2,223 feet and has a small producer of 34 bbls. The Wyoming Associated, drilling on Section 26-40-79, got a well that will make a 33-bbl. pumper at 1,577 feet and the Wyoming Associated and Midwest Oil, drilling jointly on Section 13-40-79, found a producer good for 188 bbls. at 1,990 feet. The Salt Creek Consolidated Oil Co., on Section 31-40-79, has a 25-bbl. well in the second Wall Creek sand at 2,290 feet and all the four new wells required shooting.

The Moffat Field in Colorado is showing some activity. The Midwest well on the French lease is drilling in the Dakota and has some showings of oil. The Yarg well near the Midwest is also in the Dakota and looks like a water well as nothing commercial has been found and the water is coming in strong in the sand. The Midwest well on the French is to be drilled deeper to the Lakota and may even be made a test to the Morrison sand.

The Illinois Pipe Line Co. is having trouble in the Sunburst Field in Montana with the production of the new gusher of the Johnson Syndicate. The Syndicate officials have appealed to the State Railroad Commission and say the Illinois refuses to take the oil and that the well has been shut down in consequence. The officials of the syndicate says there is no water in the oil and that the Illinois Pipe Line bases its refusal to take the crude on the fact that the tanks at the new well are not enclosed. The Railroad Commission has asked the pipe line company for its side.

The Midwest has abandoned the Six-Shooter well near Billings after drilling through both the Frontier and Dakota formations. Nothing commercial was found and the company does not expect to do any further work in that area.

The Producers & Refiners Corp. is drilling the only well in the Baxter Basin Field in Sweetwater County, Wyoming. This well is at 2,550 feet and is expected to find gas which will be used in the supply for the city of Rock Springs. The outfit has been prepared for cold weather and the work is to continue until the hole is finished.

### Runs From the Fields

| | |
|---|---|
| Salt Creek | 54,900 |
| Teapot | 2,100 |
| Big Muddy | 3,560 |
| Grass Creek | 3,080 |
| Elk Basin | 930 |
| Greybull | 20 |
| Rock River | 3,300 |
| Rex Lake | 100 |
| Lance Creek | 900 |
| Poison Spider | 400 |
| Osage | 330 |
| Hamilton Dome | 480 |
| Lander | 250 |
| Byron | 80 |
| Pilot Butte | 80 |
| Lost Soldier | 4,460 |
| Ferris | 50 |
| Cat Creek | 3,300 |
| Sunburst | 3,775 |
| Craig | 1,115 |
| Fort Collins | 710 |
| Florence | 240 |
| Miscellaneous | 550 |
| Total | 84,710 |

### ELECTED DIRECTOR

W. N. Davis, a director of the American Petroleum Institute and president of the Mid-Continent Oil & Gas Association, has been elected a director of the Phillips Petroleum Co., succeeding the late F. P. Neal.

1925
and Prosperity

We are noting a slow but consistent improvement in business conditions, which we believe will continue and will make 1925 a good business year in the Oil Industry.

We want to extend our sincere good wishes to our friends and to express the hope that they will enjoy a generous share of the new year's prosperity.

MALONEY TANK MFG. CO.
Tulsa, Okla.

MALONEY PATENTED BOLTED COPPER-STEEL TANKS

MALONEY ALONE

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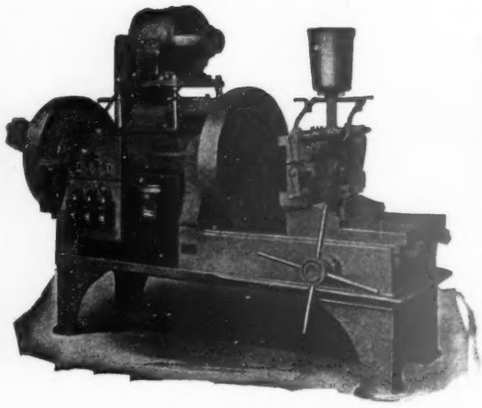

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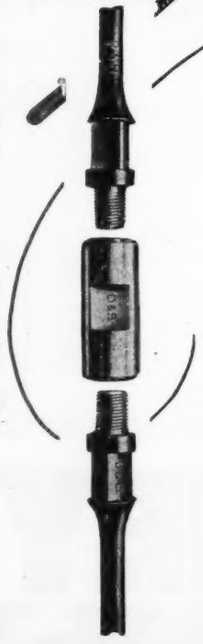

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Houston, Texas Tulsa, Okla.


# PRAIRIE STOCKHOLDERS BENEFITTED FROM O'NEIL CONTRACT, IS CLAIMED

INDEPENDENCE, Kans., Dec. 20.—James E. O'Neil made "a good bargain" when he and Harry F. Sinclair became coguarantors of a contract between the Continental Trading Co., Ltd., of Canada and the Mexia oil interests.

That is the declaration of officials at the offices of the Prairie Oil & Gas Co. in defense of Mr. O'Neil, former president of the Prairie company, whose name has been drawn into the Government probe of the Teapot Dome lease.

"When Mr. O'Neil made that contract he saved the Prairie Oil & Gas Co. $700,000, because the contract called for a price between 40 cents and $1 under the Mid-Continent price," Nelson K. Moody, successor to Mr. O'Neil, said.

Mr. Moody further declared Mr. O'Neil went to France solely to rest and regain his health, which had been shattered by too close application to his duties as president of the Prairie company. Mr. O'Neil had purchased a villa at Cannes, France, two or three years ago, he added.

### Ignores the Prairie

"Colonel Humphreys," he said, "refused to sell to the Prairie company, and would have no direct dealings with it. The Continental Trading Co. had been organized sometime before and had made a contract with Colonel Humphreys to buy all his production. Therefore, it was necessary for Mr. O'Neil and all others to do business with the Continental Trading Co."

Mr. Moody and Dana Kelsey, vice-president and general manager of the Prairie, said they know nothing of the transactions of the Continental Trading Co., nor of Mr. O'Neil's connection with the company, which purchased crude oil from Colonel Humphreys and sold it back to the Prairie and Sinclair companies after taking a profit of 25 cents a barrel.

"It was a good contract for the Prairie company," Mr. Kelsey said. "I just wish we could make another like it."

Although the Prairie could not buy directly from Colonel Humphreys before the Continental contract, the officials said the Prairie recently had purchased 3,000,000 bbls. of oil direct from the Wortham, Tex., Field.

### Mr. O'Neil Very Ill

Mr. Moody told of the visit he and other officials made to Mr. O'Neil in France a few weeks ago. He said they did not go over on business, but to "cheer Mr. O'Neil up a little, since he was very ill." Mr. Moody said they talked about oil and he told Mr. O'Neil about some rumors concerning "his connection with the Continental Trading Co. and the Teapot Dome and all those things.

"Mr. O'Neil said there was nothing he had done in connection with the Continental contract that he was ashamed of and there was nothing at all concerning the Teapot Dome in the transaction," Mr. Moody asserted.

Mr. Moody said Mr. O'Neil did not go to France to escape questions, but the oil executive could not rest in New York, nor anywhere in this country, because his friends constantly were calling on him.

The Prairie and the Sinclair Crude Oil Purchasing Co., of which the Standard of Indiana owns one-half interest, purchased the Continental contract for $500,000 when it was believed the Mexia production was running low, Mr. Moody said.

"The stockholders of the Prairie were saved money by the entire deal," Mr. Kelsey said.

### Continental Company's Career

The case of the Continental Trading Co., Ltd., of Canada, developed as a result of efforts of the Government's attorneys to trace $90,000 worth of Liberty bonds alleged to have been paid to Albert B. Fall, former Secretary of the Interior, in the form of a dividend. The proceedings were brought in the Canadian courts to compel H. S. Osler, Toronto attorney for the Continental Trading Co., to disclose the names of his principals. The court ordered him to testify but he is now in Africa on a hunting trip. The investigation into the Continental Trading Co.'s affairs, the Government's attorneys say, brought forth information covering certain oil contracts between Standard Oil officials and Colonel A. E. Humphreys, discoverer and owner of large producing oil properties in the Mexia and Powell Fields of Texas. The main points as stated in the Government's case follow:

Following the opening of these two fields Colonel Humphreys had large quantities of crude oil for sale and was seeking a purchaser. This was late in 1921. Negotiations were then opened with H. M. Blackmer, president of the Mid-West Refining Co., a Standard Oil unit controlled by Standard Oil of Indiana; James E. O'Neil, the then president of the Prairie Oil & Gas Co., the largest purchaser of crude oil in the country, and also a Standard Oil unit; Harry F. Sinclair, head of the Sinclair Consolidated Oil Corp., and H. S. Osler of Osler & Hammond, a brokerage and banking house of Toronto, Canada, who was president of the Continental Trading Co., Ltd., now defunct.

### The Humphries Contract

As a result of these negotiations, it is said a meeting was held at the Hotel Vanderbilt, New York, on November 17, 1921, at which time Colonel Humphreys signed a contract agreeing to sell to the Continental Trading Co., then newly organized, a total of 33,333,333 bbls. of crude oil, which were to be produced by the Humphreys Texas Co., and the Humphreys Mexia Co. The contract called for the delivery of the oil on the basis of $1.50 per barrel.

Colonel Humphreys, according to an affidavit filed by the Government's attorneys in Toronto, said he had never heard of the Continental Trading Co., Ltd., and therefore refused to sell the oil to it unless some sort of a guarantee was obtained to bind the contract. As a result of this stand Harry F. Sinclair and James E. ONeil guaranteed the contract of the Continental Co. and further obtained a written agreement from the Prairie Oil & Gas Co. and the Sinclair Crude Oil Purchasing Co., guaranteeing that the contract made between Humphreys and the Continental would be carried out.

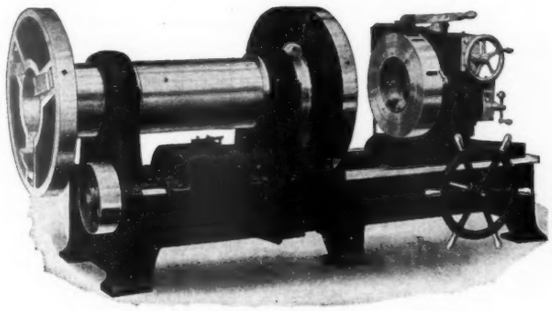
The same day the contract was signed between Colonel Humphreys and the Continental Trading Co., the latter, as a corporation, the Government says, made a contract to sell all the oil received from the Humphreys companies to Prairie Oil & Gas Co. and to the Sinclair Crude Oil Purchasing Co. at $1.75 per barrel, or 25 cents per barrel above the price paid to Humphreys.

The entire contract called for the delivery of 33,333,333 bbls. of oil, which, if carried out in full would have netted the Continental Trading Co., on its 25 cents per barrel, an aggregate profit of $8,333,333.33. Just how much oil was delivered under this contract was never made known. According to the Government's affidavit it was alleged that the Continental Trading Co. made a profit of more than $2,000,000.

It was the charge of the Government that the Continental Trading Co., Ltd., was organized by Osler, O'Neil, Blackmer and Sinclair to act as intermediary in the sale of the oil at a profit, and that after this had been accomplished the company was dissolved in January or February of 1924 and all of its records, books and papers were destroyed.

In the meanwhile, from its profits the Continental Trading Co. is alleged on April 13, 1922, to have purchased $250,000 par value of 3½ per cent Liberty bonds, which were delivered to the Dominion Bank of Canada and thence to the corporation.

The Government affidavit further charged that $90,000 of said bonds identified by their numbers, were found in the possession of Albert B. Fall.



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## 10 Wells in Wortham Field Produce Over 59,000 Barrels a Day

MEXIA, Tex., Dec. 23.—A blizzard accompanied by intense cold has caused the shut down of 90 per cent of the operations in the Wortham Field and will delay the completion of many wells due to be finished before the New Year.

The production of the field on Sunday, ending at 7 a. m., was 46,915 bbls. from eight wells as follows: Boyd Oil Co.'s No. 1 Boyd, 771 bbls.; Boyd Oil Co.'s Nos. 1, 2 and 3 Simmons, 22,108 bbls.; Mrs. J. K. Hughes' No. 1 Simmons, 7,000 bbls.; Kirby Petroleum Co.'s No. 1 Bounds, 4,527 bbls.; Atlantic Oil Producing Co., Penn and others' No. 1 McCorkle, 8,700 bbls.; E. L. Smith's No. 1 Beall, 3,809 bbls.

For the 24 hours ending Monday at 7 a. m. the production was 46,135 bbls. from 8 wells.

The ninth well in the field was E. L. Smith and others' No. 1 Edwards, in Freestone County, which started at 8,500 bbls. from sand at 2,990 to 3,015 feet.

The tenth well completed was that of the Pure Oil Co. on the Bounds farm, offsetting the Boyd Oil Co.'s No. 4 Simmons. It got sand at 2,897 to 2,961 feet and started at 6,000 bbls. a day.

The estimated production from 10 wells on Tuesday, December 23, was 59,200 bbls. a day.

## MEXICO WILL RETURN CHECKS TO VICTIMS

The Mexican Foreign Office and Post Office Department are taking steps to return drafts and money orders to Americans who tried to invest in the mining and oil stocks floated there by Harry Swartz and Charles Sherwin. It is estimated nearly a quarter of a million dollars in checks, bank drafts and money orders will be returned.

Swartz and Sherwin, after conviction in Fort Worth, appealed and were released on bail. They fled to Mexico, where they started operations in Mexico City and then in Guadalajara. Mexican authorities at that time were powerless, as their advertising matters was sent only to the United States and no Mexicans were included.

Following an agreement at San Antonio between American postal authorities and the Post Office Department in Mexico, Mexicans seized mail directed to these companies. The Foreign Office agreed to turn over all mail to the American Embassy, which will send the drafts to Washington for return to the senders.

Swartz is still operating at Monterrey, Saltillo and Villardama, in the northern part of Mexico, under various names.

One scheme has been the promotion of an oil company on the Mexican side of the Rio Grande, where investors are lured by accounts of developments in the fields on the Texas side. Sherwin is believed to be in San Antonio.

The Postmaster General, at Washington, on May 8, 1923, issued a fraud money order against the General Lee Development interests of Fort Worth, Texas, and named Robert A. Lee, Charles Sherwin and Harry H. Schwartz as the promoters. Last summer the Post Office Department issued a new warning against the same men, who had started operations in Mexico.

### COX CONVICTED

TEXARKANA, Ark., Dec. 20.—The Federal Court jury in the case of R. A. (Jimmie) Cox, charged with using the mails to defraud in connection with oil deals in the El Dorado (Ark.) field, returned a verdict of guilty on all six counts. Judge Youmans passed sentence of five years in the Leavenworth penitentiary on each count, the sentences to run concurrently, and imposed a fine of $200 on each count. Defendant was allowed 90 days in which to appeal.

## STATEMENT OF OIL GATHERED BY PIPE LINES IN TEXAS, MONTH OF OCTOBER, 1924*

| County— | Field or Station— | Total Barrels (Field) | Total Barrels (County) |
|---|---|---|---|
| Archer | Archer | 25,030.49 | |
| | Megargel | 23,651.58 | |
| | Wilmot | 50,786.53 | 99,468.60 |
| Brazoria | West Columbia | 430,924.69 | |
| | Damon Mound | 34,277.76 | 465,202.45 |
| Brown | Brownwood | 38,882.16 | |
| | Byrd | 7,038.73 | 45,920.89 |
| Caldwell | Rios | 52,822.38 | 52,822.38 |
| Carson | Burnett's Ranch | 49,932.67 | 49,932.67 |
| Clay | Petrolia | 6,750.86 | 6,750.86 |
| Coleman | Coleman | 176.50 | 176.50 |
| Comanche | Copperas Creek | 5,613.00 | |
| | Desdemona | 12,548.15 | |
| | Peak | 22,246.59 | 40,407.74 |
| Eastland | Colony Creek | 56,591.17 | |
| | East | 21,861.48 | |
| | Fleming | 42,404.40 | |
| | Harrell | 11,007.46 | |
| | Henson | 44,329.75 | |
| | Pioneer | 13,880.00 | |
| | Tiffin | 6,860.99 | 196,935.25 |
| Falls | Chilton | 636.37 | |
| | Oilfield | 2,760.34 | 3,396.71 |
| Fort Bend | Big Creek | 164,496.33 | |
| | Blue Ridge | 15,831.30 | 180,327.63 |
| Galveston | High Island | 2,605.92 | 2,605.92 |
| Harris | Goose Creek | 344,619.51 | |
| | Humble | 183,070.10 | |
| | Pierce Junction | 6,657.00 | 534,246.61 |
| Hardin | Batson | 40,204.08 | |
| | Saratoga | 24,513.87 | |
| | Sour Lake | 157,275.80 | 221,993.75 |
| Jack | Hensley | 6,515.62 | 6,515.62 |
| Jefferson | Spindle Top | 38,958.49 | 38,958.49 |
| Liberty | Dayton | 1,450.30 | |
| | Hull | 464,348.21 | 465,798.51 |
| Limestone | Colonel | 1,142,182.67 | |
| | Groesbeck | 162,385.58 | |
| | Mexia | 453,340.76 | 1,757,909.01 |
| Live Oak | Calliham | 27,316.00 | 27,316.00 |
| Matagorda | Markham | 3,898.50 | 3,898.50 |
| Marion | Potters | 4,003.91 | 4,003.91 |
| Milam | Minerva | 18,447.76 | 18,447.76 |
| Mitchell | Westbrook | 34,920.16 | 34,920.16 |
| Navarro | Chamber's Creek | 1,395,506.50 | |
| | Corsicana | 74,045.37 | |
| | Currie | 173,310.27 | |
| | Navarro | 31,076.48 | |
| | Powell | 324,144.49 | |
| | Richland | 15,514.98 | 2,013,598.09 |
| Orange | Cow Bayou | 88,151.52 | |
| | Orange | 178,692.01 | |
| | Terry | 50,623.89 | 317,467.42 |
| Palo Pinto | Graford | 18,714.72 | |
| | Hohertz | 27,281.47 | 45,996.19 |
| Shackelford | Moran | 83,236.77 | |
| | Poindexter | 21,746.68 | 104,983.45 |
| Stephens | Ackers | 23,961.51 | |
| | Atkins | 19,263.81 | |
| | Brazos | 973.68 | |
| | Breckenridge | 142,858.16 | |
| | Chaney | 49,211.42 | |
| | Clear Fork | 79,217.62 | |
| | Fambrough | 49,270.94 | |
| | Harris | 56,195.62 | |
| | Rogers | 45,125.92 | |
| | Stephens | 32,464.87 | 498,543.55 |
| Young | Bend | 38,325.41 | |
| | Bungar | 44,043.42 | |
| | Jenkins | 27,842.47 | 110,211.30 |
| Wichita | Burkburnett | 592,164.82 | |
| | Crites | 13,807.76 | |
| | Holliday | 496,616.47 | |
| | Maxey | 29,629.71 | |
| | Red | 15,330.20 | |
| | Serrien | 24,548.96 | 1,172,097.92 |
| Williamson | Thrall | 3,395.92 | 2,395.92 |
| Various | De Leon | 60,852.76 | |
| | Electra | 658,537.55 | |
| | Luling district | 2,172,880.43 | |
| | Ranger | 131,008.30 | |
| | Pantex | 27,779.05 | |
| | Laredo district | 491,111.26 | 3,542,169.35 |
| | Total | 12,065,419.11 | 12,065,419.11 |

*There is included in this report 2,056,669.05 bbls. gathered during months of this year previous to October.

## THREAT OF NEW "WAR" ON OIL BY BARRETT

JEFFERSON CITY, Mo., Dec. 20.—"War" will again be declared on the oil corporations of Missouri if the price of gasoline is increased with the advent of the new 2-cent a gallon tax, Attorney General Jesse W. Barrett threatens.

"Information comes to me," Barrett said, "that the oil companies will shortly increase gasoline prices in Missouri in addition to the 2-cent a gallon increase provided for in the new road tax. Basic conditions do not warrant such action. The tank car rate at Tulsa for the standard grades of gasoline remains between 8 and 9 cents per gallon and instead of production being diminished in accordance with the diminishing seasonal demand, the discovery of the new Wortham Pool in East Central Texas with its possibility of 75,000 bbls. to perhaps 200,000 barrels a day puts an end, for the time being at least, to any expectation of an advance in crude oil prices. The only possible argument, therefore, for higher gasoline prices at the present moment is the claim that the new tax necessitates extra bookkeeping and greater cost of distribution. That claim is valid only so far as it goes and cannot go beyond a fraction of a cent a gallon.

"The Standard Oil Co.'s illegal contracts, which keep millions of gallons of competitive gasoline out of Missouri, will shortly be reviewed by the Missouri Supreme Court. Meanwhile the Standard Oil Co. continues large advertisements in scores of Missouri newspapers claiming that the 'cracking patents' have lowered gasoline prices, whereas in fact, those patents, although good in themselves, have been used as a pretext for stifling competition.

"If Missouri's new gasoline tax is to be made the occasion now for an unwarranted advance in gasoline prices, I can say both for Attorney General-elect Otto and myself, that further action by this department will promptly follow."

### B. G. DAWES TO VENEZUELA

B. G. Dawes, chairman of the Pure Oil Co., will sail for Venezuela on January 3, with a party to look over the property of the Orinoco Oil Co. in which the Pure Co. owns a 75 per cent interest. A 25 per cent ownership in Orinoco is held by Venezuelan interests. Authorized capital of Orinoco Oil is 40,000 shares of $100 par of which about 14,000 shares have been issued. The concession is in the Maracaibo district and 130,000 acres, which have been fully surveyed, have been taken over. In addition, the company has options on several hundred thousand acres. Drilling outfits are on the ground but operations have not yet been started.

## MOTOR BUSES COMPLETE TRANSCONTINENTAL TRIP

LOS ANGELES, Cal., Dec. 18.—Three modern motor coaches rolled into Los Angeles a few days ago, successfully completing the first trans-continental motor bus tour in the history of this newer form of passenger transportation. The tour began in New York City on November 10, and was completed exactly on schedule time. Twenty-five tourists and their baggage were carried.

R. R. Sibley, president of the Motorway Tours Co., who accompanied the caravan, said:

"Our coaches averaged 30 miles an hour, despite the fact that we ran through all kinds of weather and negotiated all kinds of roads. In some stretches we broke trails through deep snow drifts. The famous Raton Pass and other equally stiff climbs gave us no trouble at all. In spite of unusually difficult driving conditions, our big coaches averaged seven miles per gallon of gasoline.

The busses used on the tour are the modern, low-hung Pierce-Arrow motor coaches, which are equipped with 100 horsepower, six-cylinder engines. Four vehicles actually made the trip, three of them being used to carry passengers and one to act as a pathfinder and to carry luggage.

## DRAFT REGULATIONS FOR FUEL OIL BURNERS

The formulation of a set of regulations governing the installation of oil burners that will be fair and equitable for oil distributors, burner manufacturers and the various boards of safety engineers, was the object of a meeting held at Lansing, Mich., recently. The meeting was attended by representatives of all of the groups interested in the regulations and resulted in the appointment of a small committee to draft the regulations which will be presented finally to the large committee at a later meeting. It is confidently expected that when the ordinance is written it will be so impartial and fair that it will be a model which other States can copy.

This is the same plan and the same idea which is being carried out by the city of Detroit in its attempt to write a model ordinance governing oil burner installations. The Michigan Independent Oil Men's Association has taken an active part in the drafting of both of these ordinances, and C. V. Lane, state fire marshal, has been instrumental in calling together the fire chiefs of representative cities in the State. Mr. Lane will appoint the committee to draft the preliminary regulations.

## GAS MERGER INQUIRY BEGUN BY WASHINGTON

WASHINGTON, D. C., Dec. 20.—The proposed consolidation of the West Virginia Natural Gas Co. and the Ohio Natural Gas Co. will be investigated by the Department of Justice in view of complaints by the Ohio Public Utilities Commission and others. The inquiry is being conducted by A. T. Seymour, assistant to the Attorney General, in charge of anti-trust prosecutions.

Mr. Seymour declined to disclose details, but said he expected developments within a few weeks.

First word of the inquiry became public in Ohio, but when the attention of high Department officials was called to the facts as published they were flatly denied the department had anything to do with such an investigation. They conceded the truth of the story after copies of correspondence in the case had been published in Ohio newspapers.

### OIL TECHNOLOGY COURSE

LAWRENCE, Kan., Dec. 20.—The school of engineering, at the University of Kansas, has made provision for courses in oil field engineering or petroleum technology. It is so arranged students in either mining or mechanical engineering, may take it.

# OIL PUBLICITY NOT PROPAGANDA BUT FACTS, SAYS CHAIRMAN PRIZER

By L. M. Fanning

Stressing the point that the program for dissemination of information about the petroleum industry, adopted by the directors of the American Petroleum Institute at Fort Worth, is against anything of a propaganda nature, that the funds to be raised for carrying on the work are modest and that the action was based on a study and a realization of what had been accomplished in other lines of business endeavor to present essential facts, Edward Prizer, chairman of the board of the Vacuum Oil Co. and chairman of the subcommittee of the joint educational committee, which formulated the plan, expressed confidence in the beneficial results to the industry of the conservative campaign which has been approved.

Mr. Prizer has devoted considerable time and study to the institute's publicity program, and was one of the first to champion the cause of a fact-telling organization to combat popular ignorance and misconception of the industry. Heading a company whose activities extend not only into every State of the Union but into every country of the world, his experience proved of peculiar value to the educational committee, not only as regards its consideration of direct publicity but also as regards the possibilities of good will advertising. The Vacuum Oil Co. is one of the largest, if not the largest, national advertisers among the oil companies.

"We have been studying the matter of launching a program such as that passed by the directors of the institute for a long time," Mr. Prizer said. "We found every leading industry had some channel for the dissemination of essential facts. We felt it was time for our industry to do something of the same kind; to give publicity to the real truth and the underlying facts concerning it.

**Other Industries**

"The members of the committee took it upon themselves to find out what the different industries were doing. We learned what we could about the activities of the railroads, the electric industry and several others."

It will be recalled that during the summer the joint educational committee, composed of representatives of the institute and of other national oil trade associations, heard a group of public relations experts and received a great amount of information as to what was being done by other industries. Among those heard were Robert S. Binkerd, vice chairman of the committee on public relations of the eastern and southern railroads; Stanley R. Latshaw, manufacturer and publisher; Courtland Smith, secretary of the Motion Picture Producers Association; E. K. Hall, vice president in charge of public relations of the American Telephone & Telegraph Co.; George F. Oxley, in charge of publicity and advertising for the National Electric Light Association; Lee Olwell, assistant to the president, National City Bank; Bruce Barton, Richard J. Walsh, Thomas F. Logan and D. T. Pierce, well known public relations men and writers.

"We did not want to do anything extravagant," Mr. Prizer said, "and we inclined more along the line of what the railroads are doing. The eastern and southern railroads have a department which collects the essential facts and distributes them to the railroads for their use as they see fit. This is all our bureau is at present designed to do. It will collect and make available the facts and it is up to the individual units in the industry to make use of and to develop the material.

"We were shown a pamphlet issued by the railroad bureau. One railroad was so impressed with it that it put out the material in considerable volume under its own imprint. This is the customary method of distribution, and it is the one we intend to follow in the oil industry.

"The appropriation for the oil industry's public relations work is $100,000 per annum. This may look to the casual observer to be a large sum of money. But when it is appreciated that it is necessary to have a bureau for the work and qualified men to handle it and a considerable amount of printing and like expenditure, the appropriation will be seen to be very modest. Also influencing the amount was consideration of the necessary funds to maintain a statistical agency connected with the institute. However, while a certain amount of distribution of material will be done directly by the bureau, it will not be solely its function to get the facts before the people. It is for the individual units in the industry to use the material and spend the money to give it proper dissemination both as to publicity and advertising."

Mr. Prizer indicated that he believed the outstanding objective of the public relations work of the institute should be the bulding up of a sympathetic knowledge of the industry in the public mind, which will be reflected in the public's attitude toward the goods offered for sale by the trade as well as in its attitude toward the great problems of the industry.

"I don't think the public realizes," Mr. Prizer said, "that next to steel, petroleum is the most essential business. "What operates against it is to the detriment of the public. This fact should be understood by the public. The public is entitled to know the extent to which its prosperity and happiness is involved.

**Not Money-Making Scheme**

"The institute's public relations program is no money-making scheme. It is not to sell more oil. It is designed to have the public realize the truth about a great many things about the industry that have been misunderstood or have been unknown altogether. The whole purpose is simply to tell as well as we are able the underlying facts and truths. There is no purpose involved to fool the public. You know the quotation that you can fool some of the people some of the time but you can't fool all of the people all the time.

"We appreciate that this telling of the facts to the public must be a slow process. No propaganda of any kind is intended. There is a tremendous amount of popular ignorance and wrong assumption and erroneous conclusion as regards prices of petroleum products. The people do not realize that a large percentage of our products is sold at less than the cost of the crude oil. They have no conception of the expense and the great amount of equipment involved in getting the oil from beneath the ground to the place where it is pumped into the motor car. No idea is popularly had of the amount of products sold at a net loss compared with the cost of crude; 40 to 50 per cent of our products are sold in this way. The public must understand this and also know that the industry as now constituted cannot continue to do business unless its readily merchantable products are able to command a price sufficient to offset that condition.

"When one stops to realize that 85 per cent of the motor vehicles of the world are concentrated in this country, some appreciation is possible of how essential it is to the public that there is a free flow of material that fuels and lubricates the motor cars. But the public does not fully understand this and it must be told this fact enough to fully realize its interest in the petroleum business.

**Time to Talk Out**

"We have allowed the agitator and the demagogue to have his say for a long time and now it is time for us to talk.

"The petroleum industry has got to create among the people a good will, and good will can only be created by informing the public so that confidence will be established.

"If public good will exists, injudicious things will be opposed. Dissemination of facts about the railroads brought good will to them that did not exist before measures were taken to tell the exact situation.

"The public should be made to understand that anything that will hamper the supply of petroleum for motor cars would be little short of a catastrophe, for that is exactly the situation.

"I want to emphasize the fact that the work to be undertaken is in no sense propaganda. We want only to put out the essential facts and the fundamental information. The public has never stopped to think of the wonderful facts of how petroleum is distributed. The man has the tank of his car filled without giving a thought to the volume of work and the ideal of service involved in its availability.

"The petroleum industry is highly competitive. The public is entitled to know that. It is not a controlled business. The public should be told that by having where it can see and read them the facts that show this to be true. The facts should be stated and restated and presented in their various relationships showing that the law of supply and demand controls prices."

# Late Fields

## OKLAHOMA

The Eastern Oil Co.'s No. 7 Berry, NE cor. SE SE, Section 25-13-11, in Okmulgee County, was making 400 bbls. from sand at 2,457-61 feet.

The Southwestern Petroleum Co.'s No. 3 McMahan, SW cor. NE, Section 4-10-8, Cromwell Field, topped sand at 3,398 feet, and at 3,455 feet was flowing 120 bbls. an hour.

The Waite Phillips Co.'s No. 6 Dunn, NE cor. NW SE, Section 4-10-8, in the Cromwell Field, was flowing 100 bbls. an hour from sand at 3,436-3,500 feet.

The Cosden Oil & Gas Co.'s No. 7 Yarhola, NE cor. SE SE, Section 15-10-8, Cromwell Field, is a 250-bbl. producer from sand at 3,490-3,525 feet.

## KANSAS

Parish and others' No. 1 Gray, C SE NE NW, Section 29-23-15, Woodson County, topped lime at 1,488 feet, and sand at 1,508 feet. The sand gives promise of making an excellent well, and drilling was stopped.

Sterns & Streeter's No. 2 Oswald, NE cor. SW SW, Section 8-12-15w, Russell County, was pumping 28 bbls. an hour from sand at 2,938-40 feet.

## CALIFORNIA

LOS ANGELES, Calif., Dec. 23.—The production for California during November totaled 17,767,034 bbls. During that month, 62 wells were completed for an initial output of 33,130 bbls. Thirty drilling wells and 50 producers were abandoned.

The Mohawk Oil Co. has completed a small well at Inglewood good for about 75 bbls. of heavy oil.

## SHIPPING BOARD CONTRACTS

WASHINGTON, D. C., Dec. 20.—The United States Shipping Board Emergency Fleet Corp. has awarded contracts for the delivery of 7,036,000 bbls. of fuel and cargo oil for delivery during 1925 at Atlantic and Gulf ports. Following are the bids which were accepted:

*Standard Oil Co. of New Jersey. Fuel oil. New York, 4,200,000 bbls., terminal, $1.79 per bbl.; barge, $1.85½; Baltimore, 960,000 bbls., terminal, $1.79 per bbl.; barge, $1.85½; Charleston, 180,000 bbls., terminal, $1.74 per bbl.

*Mexican Petroleum Co., New York City. Fuel oil. Jacksonville, 198,000 bbls., terminal, $1.70; barge 1.76½; Houston, 198,000 bbls., terminal, $1.50.

Magnolia Petroleum Co., Dallas, Tex. Cargo oil. Beaumont, Magpeteo and Sabine, 1,300,000 bbls., terminal, $1.45.

*Prices quoted are maximum and are subject to decline in suppliers' market prices.

## OIL ENGINE MARKET IS JUST DEVELOPING

Although Fairbanks, Morse & Co. has installed more than 700,000 h. p. of oil engines during the past 12 years, the potential market has barely been scratched according to J. D. Harper, general manager of oil engine sales, who spoke at a conference held in the executive offices of the company in Chicago recently. Twenty-eight branch managers, in addition to factory and general office executives, were present.

In conjunction with the conference C. B. Jahnke, chief engineer of the Beloit, Wis., works, announced the development of a vertical Diesel engine for marine and stationary service in ratings of 30 to 300 h. p. This engine is similar in design to the type "Y" and "CO" engines, which were formerly built, except that many refinements have been made and the engine starts without the aid of auxiliary ignition devices.

The party of 52 attending the conference made an inspection trip to the company's electrical machinery plant at Indianapolis, the pump factory at Three Rivers, Mich., and the engine plant at Beloit, Wis.

At the pump factory, one of the pumps seen in operation was a 36-inch, 40,000-gallons-per-minute centrifugal unit which, it was reported, developed an efficiency of 87 per cent. A new high speed ball-bearing pump and motor unit, which was also under test, developed an efficiency of 74.5 per cent. This compares with about 60 per cent for the ordinary run of 1,800 r. p. m. pumps.

At the Beloit plant, when the test floor was inspected, 13 of the branch managers each started up a type "Y" Diesel engine on a signal, and all of the engines were in full operation within 15 seconds.

## AMENDMENTS NOT JUSTIFIED

OKLAHOMA CITY, Okla., Dec. 22.—Amendments to rules of the conservation bureau of the Corporation Commission affecting rotary drilling and the cementing of wells, recently proposed and on which a hearing was held before W. C. Geers, director of the bureau, will not be made. The commission issued an order following completion of the report of Director Geers saying it finds "the proposed amendments not justified at this time." The proposed new rules would have forbidden completion of oil and gas wells with rotary tools save under express permission of agents of the commission and the use of sealing materials that harden in 48 hours as a substitute for cement that requires 10 days to harden except on express approval of the commission. Officials of the Mid-Continent Oil & Gas Association and many individual oil operators protested against the proposed rules.

## TAXED $1.10 A MINUTE

The Standard Oil Co. of Louisiana, which is controlled through stock ownership by the Standard Oil Co. of New Jersey, will pay taxes of $1.10 a minute, or $66.15 for each hour of day and night to do business in East Baton Rouge Parish, La., during the next year, according to figures received in the financial district yesterday. The tax, according to the information, covers payments only to the tax collector in the Parish named and State taxes, but does not cover the taxes on properties located in other parts of the State.

The tax payments are based upon an aggregate assessment of $41,000,000 and total $579,604.

## PAYS TAX ADVANCE

The manager of the Huasteca Petroleum Co. (owned by Pan-American Petroleum & Transport Co.) handed the Mexican Minister of Finance a check for 6,000,000 pesos as advance payment on oil taxes to be due the Mexican Government. Monthly credit will be given the company until the advance is wiped out.

# Cut Oil Drilling Costs

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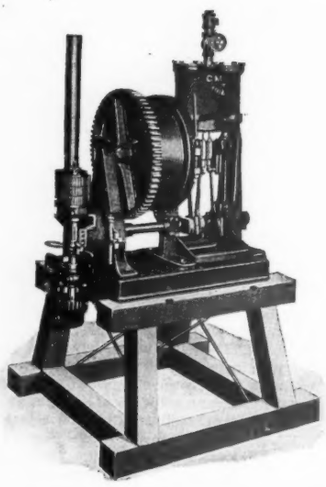
Prices Attractive



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*Manufacturers of the Supreme Drilling Outfits*

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McHenry, Ill.


# BUREAU OF MINES DEVELOPS METHOD FOR ANALYSIS OF OIL WAX MIXTURE

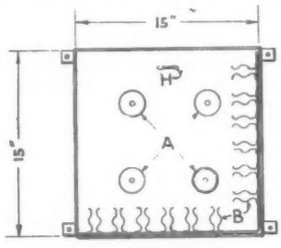
By L. D. Wyant and L. G. Marsh
*Engineers, United States Bureau of Mines*

A convenient method for the analysis of oil-wax mixtures has been developed in the petroleum laboratory of the Bureau of Mines. This method has been found useful in studying the characteristics of the products obtained in petroleum refineries during the manufacture of "foots oil," "intermediate wax," and commercial paraffin. In this method acetone is used as a selective solvent.

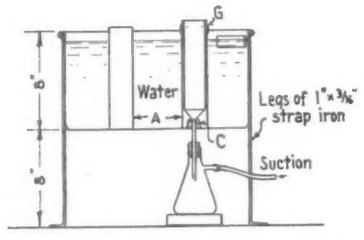
The method was developed as part of the bureau's general study of methods of manufacturing lubricants from wax bearing crude petroleums. In connection with this general problem, the characteristics of oil-wax mixtures have been studied, particularly the mixtures produced during the refining of "slack" wax to commercial paraffin.

### Description of Equipment

The equipment used in this work consists of a filtering bath and filters, as shown in detail in the accompanying drawing. The water bath and holder tubes, A, are made of heavy galvanized iron. The filter found to be most satisfactory consists of a monel metal screen (very fine mesh), E, placed in a brass tube, D, as shown in the figure. The cross section shows the manner in which the filters are inserted in the holder tubes. To prevent any air circulation between the filter and the tube, a cork, C, is placed under each filter and a piece of thin rubber tubing (Gooch crucible rubber) is placed around the top at G. A number of test tube holders, B, are attached along two sides of the bath as shown in the top view. A motor driven stirrer, H, is used to agitate the water in the bath.




TOP VIEW

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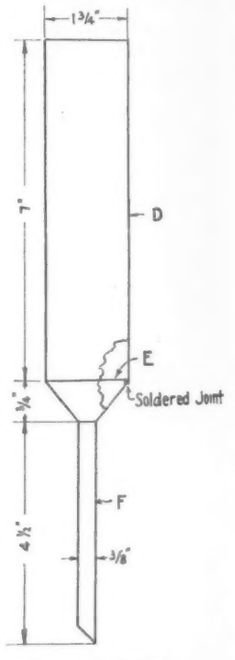


DETAIL OF FILTER

### Sampling of Oil-Wax Mixtures

It is very important in testing oil-wax mixtures that truly representative samples be secured. This is most easily done by melting, thoroughly stirring the mixture to be sampled, taking the sample for test immediately, while still hot. If the mixture is allowed to cool to a solid or semi-solid cake, the contained wax segregates and it is practically impossible to obtain a representative sample by cutting out a part of the cake.

Where most accurate results are desired the sample should be filtered hot through filter paper, as the presence of foreign matter not only makes the weighing inaccurate but may cause the precipitate to form in hard masses and thereby prevent complete washing.

### Procedure in Testing

The test procedure is as follows: A five-gram sample of the oil-wax mixture is weighed into a 100 cc. Erlenmeyer flask; 35 cc. of acetone is added and refluxed with the sample until it is dissolved, or in case of an extremely high melting point sample, until all of the sample is liquefied. The solution is transferred, while hot, to a 12-inch 120 cc. capacity test tube, which is immediately stoppered to prevent evaporation. Then 15 cc. of acetone is used to wash out the flask and added to the solution in the test tube, thus making five grams of sample and 50 cc. of acetone. The solution is shaken vigorously (in cool water if desired) until it has cooled to nearly 60 degrees F., then it is placed in the bath and allowed to come to the bath temperature of 60 degrees F.

Test tubes, each containing 50 cc. of new acetone for washing, are also kept at 60 degrees F. in the bath. It has been found convenient to have those tubes graduated in one 20 cc. portion and two 15 cc. portions.

When the solution has had ample time to come to the bath temperature, it is poured into the filter and the acetone solution allowed to drain off. Then 15 cc. of the wash acetone is put into the tube that contained the sample. The tube is shaken and the contents immediately poured into the filter. The second 15 cc. portion of acetone is then poured into the sample tube, shaken and poured into the filter. After each addition of wash acetone the filter is allowed time to drain. The remaining 20 cc. is then used to wash down any crystals on the sides of the filter. As soon as this last volume is added suction is applied to the filter flask and the filter allowed to drain dry, requiring about 30 seconds.

The filtrate is quantitatively transferred to a small balloon flask and dis-

# Beautiful, but Dumb

THEY knock the girl who is beautiful but dumb, but she isn't the girl I am sorry for.

The real tragedy of life is the girl who is homely but dumb.

If a girl hasn't any figure, she ought at least to be able to add them up.

The Nye Die isn't as highly polished as a saxaphone but it lives a nobler life.

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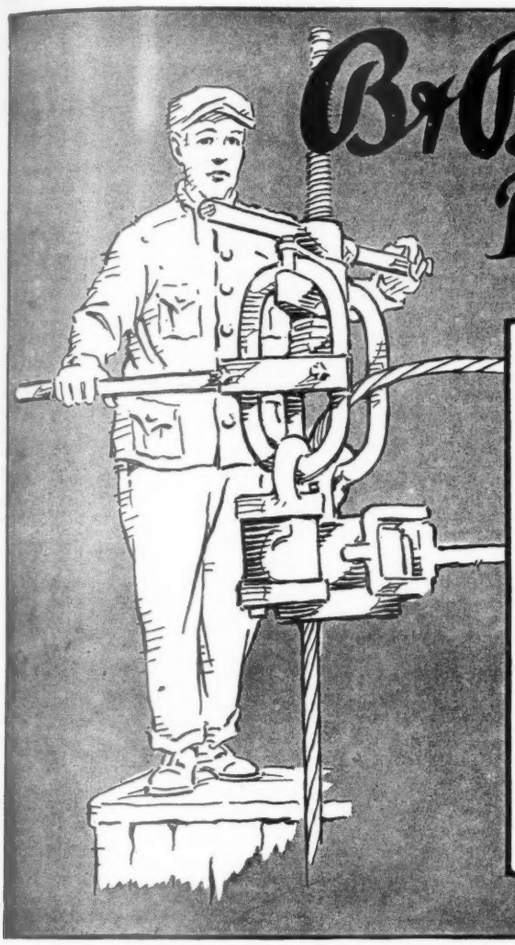

# B & B Non-Kinking Drilling Lines

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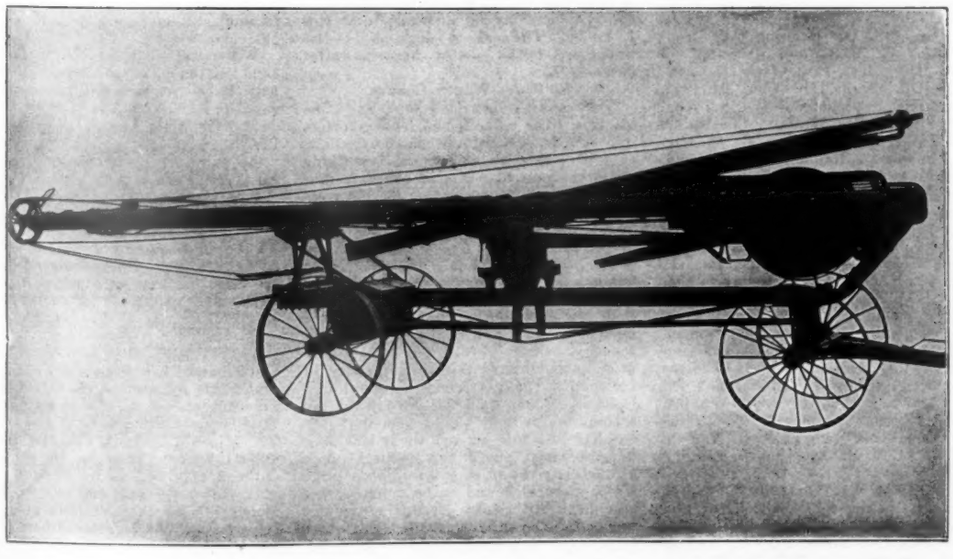
# IT'S MADE TO WEAR



Built throughout of the best and strongest materials obtainable, constructed by careful and experienced workmen, the IRON KING pulling machine is good for years of steady, hard and severe service. The first IRON KING taken into Pennsylvania more than 17 years ago has been in constant service during all of that time, and today is pulling those wells with all its old time vigor. Why take a chance on an inferior machine?

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BRADNER, OHIO

*Say you saw it in The Oil and Gas Journal*

tilled over a steam bath until the acetone is nearly all driven off and recovered. The oil portion remaining is then transferred to a small Erlenmeyer flask, additional acetone being used to wash out the balloon flask. The solution of oil and acetone is then distilled as above and the residue (oil) dried in vacuo in a boiling water bath until it is free of acetone. The amount of wax is determined by subtracting the weight of the oil thus determined from the weight of the original five-gram sample. The wax precipitate is recovered from the filter and evacuated in a boiling water bath, no effort being made to make a quantitative weighing of it. Its melting point can then be determined.

**Melting Point of Wax**

Experience with the above method has shown that in general it gives reliable results if the melting point of the wax portion is normal. If the recovered wax has a low melting point, indicating an incomplete separation of oil and wax, it is redissolved with new acetone in the proportion of 20 cc. of acetone to one gram of wax. The solution is cooled to 60 degrees F., filtered, and the wax crystals washed with 20 cc. of 60 degree F. acetone per gram of sample. The oil in the filtrate is separated from the acetone by distillation and evacuation as outlined above. The wax portion is likewise evacuated and its melting point determined. The total weight of oil removed is then determined and the yield of wax found by difference.

If, on the other hand, the melting point of the recovered wax is abnormally, high, the percentage yield will probably be slightly low, and for accurate results it is necessary to recover an additional crop of wax crystals from the separated oil. This is done by redissolving in acetone, cooling to 60 degrees F. and filtering as outlined above. In this case the wax portions from both crystallizations are combined. Consistent results have been obtained by the method of analysis described here. There are, however, two points which must be carefully watched. These are:

1. The solution must be shaken while cooling until it is nearly at the filtering temperature, otherwise the wax may precipitate in a lumpy mass which cannot be washed free of oil.

2. Care must be taken that no water gets into the sample or the acetone, as a small amount of water decreases the solvent power of acetone for both oil and wax.

An attempt to use suction during the entire operation of filtering was not successful as the temperature of the solution and wax in the filter was reduced considerably below the standard temperature of 60 degrees F. This reduction in temperature was caused by the rapid evaporation of acetone.

## EASTERN MARKETS FIRM; HIGHER GASOLINE PRICES

(Continued from Page 91)

| | | | |
|---|---|---|---|
| Lubricating greases— | | | |
| Barrels ..... ..... ..... | | | 1,625 |
| Paraffin wax— | | | |
| Bags, pounds .. | 860,200 | 1,443,860 | 828,300 |
| Barrels ..... | 1,992 | 5,247 | 2,356 |
| Crude oil— | | | |
| Barrels ..... | 1,286 ..... | | 430 |

The larger part of the exports during the week ended December 17 was to Europe.

**Oil Receipts Decrease**

Receipts of crude and refined petroleum at Atlantic ports during the week ended December 17 are estimated at 419,000 bbls. daily, against 523,000 bbls. daily during the preceding week, a decline of 104,000 bbls. This decrease is due almost entirely to smaller receipts from California and Mexico.

Receipts from California during the week are estimated at only 66,000 bbls. daily, against 90,000 bbls. daily the week before. Imports averaged 62,000 bbls. daily, all from Mexico, against 127,000 bbls. daily the week before, a decrease of 65,000 bbls.

Receipts from the Gulf held up to 291,000 bbls. daily, representing approximately 70 per cent of the total. The movement from Texas City and the Houston Ship Channel were exceptionally large.

Receipts from California seem to be settling down to lower levels. However, it is understood some contracts have been made for delivery of California oil to the Atlantic Seaboard throughout 1925. These contracts call for about 50,000 bbls. daily. They can be terminated at the request of the purchsers, however.

The following table shows estimated daily average receipts of crude and refined oil by water at Atlantic ports from Gulf and Pacific Coast of the United States, and imports, for the last three weeks, also monthly record for the last 13 months (figures in barrels):

| Week ended— | Dec. 17 | Dec. 10 | Dec. 3 |
|---|---|---|---|
| Gulf Coast ..... | 291,000 | 306,000 | 299,000 |
| Pacific Coast ..... | 66,000 | 90,000 | 50,000 |
| Imports ..... | 62,000 | 127,000 | 127,000 |
| Total ..... | 419,000 | 523,000 | 476,000 |

| Daily Averages by Months | | | | |
|---|---|---|---|---|
| 1924— | Gulf | Pacific | Imports | Total |
| November | 246,000 | 80,000 | 150,000 | 476,000 |
| October .. | 246,000 | 120,000 | 88,000 | 454,000 |
| September | 270,000 | 104,000 | 101,000 | 475,000 |
| August .. | 310,000 | 127,000 | 84,000 | 521,000 |
| July ..... | 318,000 | 85,000 | 114,000 | 517,000 |
| June .... | 302,000 | 133,000 | 136,000 | 571,000 |
| May ..... | 276,000 | 122,000 | 144,000 | 542,000 |
| April .... | 262,000 | 143,000 | 123,000 | 528,000 |
| March ... | 201,000 | 137,000 | 130,000 | 468,000 |
| February. | 174,000 | 175,000 | 108,000 | 456,000 |
| January . | 127,000 | 159,000 | 79,000 | 365,000 |
| 1923— | | | | |
| December. | 184,000 | 153,000 | 119,000 | 456,000 |
| November | 186,000 | 141,000 | 110,000 | 437,000 |

Imports are largely from Mexico, with an occasional shipment from Peru, Trinidad or Venezuela.

## OIL CITY REFINERIES INSPECTED BY N. P. A.

(Continued from Page 86)

only through lack of cooperation that this plant was lost to the Pittsburgh district. Remarks were also made by N. W. Jamieson, of the Warren Refining Co.; Marcus Cowden of the Pennsylvania Petroleum Refining Co. and others.

At the Pennzoil plant No. 2, much interest was shown in the semi-continuous still for finishing gasoline. Then the Pennzoil No. 1 plant was visited, where two and one-half hours were taken up in a tour of inspection. This plant is one of the finest in the country operating on an exclusive Pennsylvania crude basis and much interest was shown in the various new devices installed there.

The meetings here were reported as very successful and an increased interest was shown in the manufacturing division.

**Registration List**

Those in attendance at the plant inspections were: E. D. Northrup, Warren Refining Co., Warren, Pa.; W. R. Reck, Bradford Oil Refining Co., Bradford, Pa.; W. B. Graham, Crystal Oil Works, Oil City, Pa.; Jack Fawcett, Crystal Oil Works, Oil City, Pa.; H. F. Cogswell, Superior Oil Works, Warren, Pa.; H. W. Walihli, Conewango Refining Co., Warren, Pa.; G. E. Higgins, Conewango Refining Co., Warren, Pa.; Frank Paff, Independent Refining Co., Oil City, Pa.; Russell Buckham, Independent Refining Co., Oil City, Pa.; Harry Shoemaker, Independent Refining Co., Oil City, Pa.; L. A. Tarbox, Independent Refining Co., Oil City, Pa.; P. S. Tarbox, Independent Refining Co., Oil City, Pa.; H. H. Lowrie, Independent Refining Co., Oil City, Pa.; M. J. Glenn, Emlenton Refining Co., Emlenton, Pa.; Mr. Lackmann, Emery Manufacturing Co., Bradford, Pa.; Thomas Anderton, Continental Refining Co., Oil City, Pa.; S. B. Brown, Great Western Oil Co., Cleveland, Ohio; G. G. Brockway, Warr-Penn Refining Co., Warren, Pa.; W. J. Cavell, Levi-Smith Refining Co., Clarendon, Pa.; C. D. Blair, Levi-Smith Refining Co., Clarendon, Pa.; P. F. Conerty, Butler Co., Oil Refining Co., Bruin, Pa.; L. P. Litzinger, Butler Co., Oil Refining Co., Bruin, Pa.; L. D. Fulton, The Pennzoil Co., Oil City, Pa.; D. J. Harvey, The Pennzoil Co., Oil City, Pa.; W. S. Zehrung, The Pennzoil Co., Oil City, Pa.; Marcus Cowden, Pennsylvania Oil Products Co., Eldred, Pa.; Mr. Griswold, Crew-Levick, Co., Titusville, Pa.; Mr. Anderson, Crew-Levick Co., Titusville, Pa.; Budd Turk, American Oil Works, Titusville, Pa.; Frank Von Trackey, Titusville Oil Works, Titusville, Pa.; Mr. Miner, United Refining Co., Warren, Pa.; H. J. Dorrance, Crew-Levick Co., Warren, Pa.; L. R. Quirin, Canfield Oil Co., Coraopolis, Pa.; A. W. McAllister, Vulcan Oil Refining Co., Coraopolis, Pa.; W. L. Bennett, Wilburne Oil Works, Warren, Pa.; Harry Peterson, Seneca Oil Works, Warren, Pa.; H. C. Eaton, Island Refining Co., Coraopolis, Pa.; W. M. Jameson, Warren Refining Co., Warren, Pa.; A. T. Eaton, Mutual Refining Co., Warren, Pa.

## WEATHER CUTS OIL DEMAND IN CHICAGO

(Continued from Page 90)

to $1.17 and refiners asking $1.20. There is some early purchased oil that can be had at $1.15 and some smaller refiners have quoted direct at prices that brought the order but just what the price was they have not disclosed. The demand is for future delivery and the making of contracts is the thing right now although there is a disposition to hold back on the part of buyers until after the turn of the year. Oil men figure the steel industry will have to have a lot more oil than last year. Reports are that the Ohio plants are beginning to run at capacity and it is stated the Gary district has enough structural steel orders booked for next year to oblige it to run a full force. It is not doing so yet and may not before the end of next month, as it takes some time to put orders through the office and the drafting room.

Marketers state they are finding it difficult to do fuel oil business. They say it takes a lot of selling to get a price and even then the business is small but there is a god time coming next year. Gas oil is quiet. The demand should improve with the cold weather and many oil jobbers will put in gas oil for burner fuel if they can get the zero cold test. That is the rub right now. Some of the gas oil answers the specifications while many do not. The market is no higher than last week, if anything it has been a trifle lower.

**Lubricants Waiting**

The lubricating oil business is not overly active and the demand seems to be waiting for the end of the year. Some automobile concerns have been in the market in a way but they are conducting their purchases for the most part with caution. They are trying to solve the used car problem which is one that cannot be solved if they mean that cars are to be put out of commission while still serviceable. The industrial demand is slowly increasing as a whole, and will increase. The export demand is also promising for a better business after January 1.

**No Tank Wagon Change.**

The tank wagon markets show no changes. The reduction in refinery prices will remove some of the clamor for lower tank wagon rates but the best thing about the present range of prices is that they carry little inducement for the coming into the industry of new concerns. There will always be a natural increase of the number of filling stations but the great influx is probably behind the industry. A small price war was staged at Galesburg, started by a small concern that had been but a short time in the business. Just why one of the older concerns with a record for maintaining prices should have felt the necessity of cutting the prices unless it was losing business rapidly is being asked and the assumption is that the larger independent had not done as well as it had been doing of late. In a new industry such as the distribution of gasoline on a large scale, there is bound to be more or less trouble until some settled basis is reached. The gradual drift towards integration is felt by many to be the result of the necessity for stabilization. The large company with its many stations and its divided investment can make one hand wash the other and the profits of one contract or one department make good the losses in certain localities or certain branches of the company. So long as the price is not cut, the local dealer has a certain advantage but he surrenders this advantage when the price cutting starts.

## Judge Considering Postponing of Trial In Teapot Dome Suit

CHEYENNE, Wyo., Dec. 20.—Judge T. Blake Kennedy in Federal Court today took under advisement the petition of the government for a continuance of the date of the trial for annulment of the Mammoth Oil Co.'s lease on the Teapot Dome naval oil reserve.

The case is set for hearing January 6. Judge Kennedy indicated his decision will be announced probably immediately after Christmas. A continuance, if granted, he said, would be brief.

Judge Kennedy said he was impressed by the Government's presentation of the importance of procuring the evidence of H. S. Osler, and others in Canada, concerning the transactions involving Liberty Bonds of which some are alleged to have found their way into the possession of Albert B. Fall, former secretary of the Interior.

He said he would withhold decision because of his desire to go more fully into the exhibits that he might judge the probability of obtaining from Osler and others the information which the Government considers essential to its case.

Attorneys for the Mammoth Co. depreciated the possibility of the Government obtaining from Osler, Blackmer and O'Neil the testimony which it desires and also combatted the motion for continuance on technical grounds.

The evidence sought by the Government, they contended, was not material and urged the court not to give more consideration to the Government than it would to an individual. The Mammoth Co., the attorneys asserted, would be put to a heavy burden of expense if the continuance were granted and to subject it to such a burden without sufficient cause would be an injustice.

At this point Pomerene asserted to the court that the Government would not cause any unnecessary delay.

**Denied by J. E. O'Neil**

A dispatch from Cannes, France, to the New York Times, says:

James E. O'Neil, said today at his villa here that he was an invalid and unable to travel.

"I no longer have any connection with the Prairie Oil and Gas Corporation," he said. "I don't own a dozen shares in the company."

When asked if he could throw any light on the payment of $90,000 in Liberty Bonds to former Secretary Fall he replied:

"I have never met or seen Fall in my life."

As to returning to America to testify, Mr. O'Neil said:

"As you see, I am an invalid. I am too ill even to go home for Christmas. It is a day's work for me to walk up stairs. Consequently I cannot now take a business trip. I have heard little about the case, but am quite willing to answer reasonable questions in proper circumstances."

WASHINGTON.—A dispatch says the Government has been informed by the diplomatic representatives of France that in order to get the testimony of Harry M. Blackmer, Chairman of the Board of The Midwest Refining Co., and James E. O'Neil, former President of the Prairie Oil and Gas Co., as to what these men may know of the $90,000 in Liberty Bonds alleged to have been paid to ex-Secretary of the Interior Albert B. Fall, by H. S. Osler of Canada, it will be necessary to bring action in the First Court of Instance in France. Messrs. Blackmer and O'Neil have been in France since early in the year.

**ROY CHAMPLIN DIES**

Roy Champlin, an oil operator of Lawton, Okla., died recently at his home there. He was a brother of H. H. Champlin of Enid.

## T. O. SULLIVAN DIES AFTER BRIEF ILLNESS

PITTSBURGH, Pa., Dec. 19.—T. O. Sullivan, vice president and general manager of the Hope Natural Gas Co. and affiliated companies, died this afternoon at West Penn Hospital at 1:30 o'clock. Mr. Sullivan contracted a cold early in the week and pneumonia developed.

Mr. Sullivan was one of the best posted men on the natural gas business in the country, having spent the greater part of his life in the industry and was regarded as an authority on any subject pertaining to the natural gas business. His disposition made him many friends and a large acquaintance among oil and gas operators.

Mr. Sullivan was born at Ellicottville, Cattaraugus County, New York, September 11, 1861. His first big work was superintending the piping of gas and its distribution to Buffalo, N. Y. For a time he was connected with the National Transit Co., at Oil City and then came to the Peoples Natural Gas Co., at Pittsburgh. He later became connected with the Manufacturers Light & Heat Co., when that company was in need of a capable man to put it on its feet. Having successfully accomplished this work, he left the company to become general manager of the Hope Natural Gas Co., and later was elected vice president.

Mr. Sullivan was never married. He attended St. Paul's Cathedral and is survived by one brother, Patrick Sullivan of Buffalo, N. Y. Interment will take place at Ellicottville, N. Y.

## PRESIDENT CREATES COMMISSION ON OIL

(Continued from Page 23)

by the Helium Board, composed of Representatives of the Bureau of Mines, the Army and the Navy, for the last three years. It was pointed out that other countries had long since come to recognize the value of helium in connection with their national defense and had expended large sums in trying to develop helium, but without success. He declared to the House that the next war would be fought from the air and under the sea.

Mr. Jones said helium was to be found in natural gas all the way from Texas to Pennsylvania and in commercial quantities in a number of places, and while production of the inert gas is yet a new enterprise, he added the Government has expended far greater sums in development of things not half so important.

Mr. Jones' position was supported by Representative McClintic of Oklahoma, member of the Naval Affairs Committee, who pointed out that the Navy proposed to build a ship twice the size of the Shenandoah, and that the Jones amendment would permit the determination of whether there is sufficinent gas in the country to accommodate this arm of the country's defense and make it safe in the air. He said large content of helium in Oklahoma natural gas was going to waste and could never be recovered.

Representative French of Idaho, in charge of the bill, opposing the Jones amendment, said the storage of helium presented a difficult problem and had not yet been solved, as it added about 30 per cent of the cost of helium. The amendment was indirect legislation and went out on a point of order.

## YEARBOOK FEATURES DIFFERENTIAL DRIVE

"The Engineering Achievements of the Westinghouse Company During 1924" is the title of a book which will be off the press about January 5. It contains a complete review of the company's contributions to the electrical industry during the past year, showing all improvements in designs that have come out of the Westinghouse laboratories. The book covers 50 pages and is well illustrated.

Under the heading "Oil Wells," the Hild differential drive for oil well drilling and a Westinghouse motor with enclosed collections for oil well operation are listed.

Field tests of the Hild differential drive for oil wells have been made in the Torrance Redondo Field in California. Two holes, 3,700 feet deep, have been completed successfully.

This drive is designed primarily for rotary drilling. Its function is the automatic regulation of the downward bit feed according to the resistance of the formation encountered. Essentially, it consists of a differential gear unit, two slip ring motors, and a rotary drawworks. One of the motors—the drill motor—drives the rotary table which revolves the drill pipe and at the same time drives one-half of the differential. The other—the regulating motor—drives the other half of the differential. The two motors operate the differential in opposite directions, the operating motor in a direction tending to raise the drill pipe and the drilling motor in a direction tending to lower it. By adjusting the speed of the drilling motor slightly higher than that of the regulating motor, a slow downward feed of the drill pipe is produced.

If the resistance to the drill is increased due to change in formation, the increased load slows down the drill motor and a slower feed results. Conversely, a lighter load means a more rapid feeding of the bit. Extremely high resistance such as is encountered in drilling through hard rock formation actually causes the bit to rise until it clears itself and then it is again lowered and the drilling is continued.

The advantages claimed for this equipment are: More rapid drilling, the holes are drilled straighter, a reduced number of "twist-offs," lower drilling costs, fewer bits per hole, less maintenance on drilling equipment and the human element largely eliminated, permitting the driller to devote most of his time to the work crew.

## OIL SHALE RESERVE ADDED IN COLORADO

WASHINGTON, Dec. 20.—An area of 23,000 acres in Colorado was segregated as Naval Oil Shale Reserve No. 3, and nearly 5,000 acres in Utah was added to Naval Oil Shale Reserve No. 2, by the Interior Department through the Geological Survey during November, 1924.

During November the Geological Survey reported upon the structural relations of lands embraced in 453 applications for prospecting permits under the oil sections of the leasing act of February 25, 1920, thus bringing the number of such reports rendered since the passage of the act to 27,401. Over 400 such applications were pending in the Survey November 30, 1924.

### CADMAN BACK FROM PERSIA

Sir John Cadman, director of Anglo-Persian Oil Co., Ltd., who has just returned to London from Persia, says the company is striking oil in wells drilled several miles from the center of production. "It is impossible to hazard a guess as to the limits of the Persian Field," he says, "but wells are certain to flow for many years to come."


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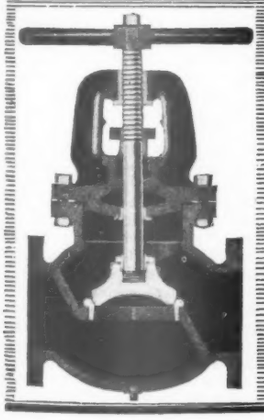

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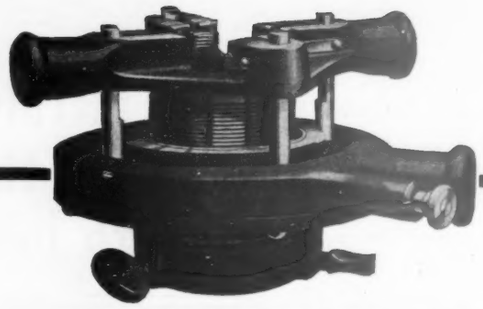

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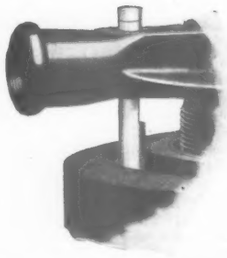

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**299 Broadway, New York**
**Chicago Boston Cincinnati Atlanta San Francisco Los Angeles**


# OIL MAN GRAPHICALLY DESCRIBES TRIP TO THE VENEZUELAN FIELDS

By W. J. Archer

During the miniature oil boom in Venezuela, following the bringing in of the La Rosa well in December, 1922, there was an intensive campaign in New York of land agents with beautifully colored maps and vivid descriptions which, in one case brought to my notice, included the occurrence of lightning seen almost every evening over the mouth of the Catatumbo River. This brilliant salesman said the phenomenon was caused by petroleum vapors ignited by the heat.

One was told there were oil indications everywhere, from the top of the Andes to the bottom of the unheard of lakes and gulfs.

I went with a group of men to Venezuela in May, 1923, and spent four months in that interesting and potentially rich country. The contrast between a New York office and the oil fields of Venezuela would impress the most phlegmatic. In Venezuela one is ultimately overtaken by the inevitable languor induced by the pitiless scorching rays of a tropical sun. In the fields there is a complete absence of feverish activity and one found that the maps seen in New York, when compared with the country itself, sometimes revealed a vagrant, though brilliant imagination which was unsupported by any previous survey.

### La Guaira and Caracas

We traveled by yacht to Venezuela, and got our first glimpse of land as we approached La Guaira.

The moment the anchor was dropped, we passed out of the balmy air and stimulating sea breezes of the Caribbean to the suffocating, blistering heat of the harbour of La Guaira, with its background of red hills dashed with spots of green.

The mountains rise almost sheer from the sea, and the houses of the port are scattered over the tiny strip of flat land or nestle among the first slopes. The air line between La Guaira and Caracas —the capital—is about 8 miles, and the road which zig-zags around the hills is over 20. But what a road! It reminds one of the passes of the Alps, and a journey over it reproduces some of the sensations of these mountain trips in Europe. On this road, trains of mules, burros, and automobiles without speed limit, seriously compete with the railway; along the highway one sees innumerable goats which everywhere in the country are a source of income, and many places seem to have no other.

### Travel Is Safe

The views between Caracas and La Guaira are best seen on the way from the capital to the harbor, though the inspiration from these is somewhat restrained by the swiftness with which the chauffeurs sweep around the sharp angles of the road on the downward journey, and about half-way between Caracas and La Guaira there comes into view an exquisite view of the calm Caribbean. In contrast to the red earth of the irregular, upheaved, dishevelled hills with an occasional patch of green, lies this sheet of water glistening like a mass of polished metal beneath the grilling sun. Caracas, the capital of Venezuela, is beautifully situated about 3,000 feet above the Carribbean, and is the seat of Government.

It is not my intention to discuss the political conditions in Venezuela, for the simple reason that I was only four months in the country, and no just or valuable opinion could be formed during a visit of such short duration, even if one were well equipped, and had no other occupation. This, however, I shall say—that during the period of my stay I was able to travel in remote places in the country with perfect safety, I found the people most courteous and agreeable, and there was a Pax Romana everywhere. I heard many oil men say that the petroleum laws on the whole are equitable and there seems good ground for the opinion that the prospects for the industry are bright.

### From Caracas to Maracaibo

We traveled by yacht from La Guaira to La Vela, and anchored about a mile from land. As we put off in a small boat down came a tropical storm; every drop, when it struck the boat, hit it with considerable force and seemed about the size of a half dollar. We arrived at La Vela drenched, which is a matter of less importance in the tropics than in a temperate zone.

The President of the State of La Falcon, who resides at La Vela, entertained us very hospitably. La Vela is a small town on an inlet of the Caribbean, near where the peninsula of Paraguana joins the mainland. The main street of the town is a river bed, and the sidewalks are paved with brick. The sudden shower converted the street into a temporary river, and as each storm gouges deeper into the street, it is considerably lower than the level of the dwellings. The rush of water carries with it large stones and detritus which are deposited in the street, and when the storm passes, pigs emerge from their shelter in the hope of obtaining some sustenance brought down by the flood, which adds to the picturesqueness of the scene.

There is a railway from La Vela to Coro, and we traveled on a flat car, kitchen chairs being commandeered from cottages to furnish us with seats.

The President of the State accompanied us, and entertained us at a banquet at the principal hotel of Coro. While we were seated at dinner, a young lady in profound negligee drifted in and took her stand beside one of our geologists, looking into his face with the trust of the unsophisticated. Through an oversight not uncommon in Venezuela, someone who had charge of her fate forgot to put on her clothes. The maiden was of tender years, probably between three and four. The advanced theories of the restraint of human pleasure by prohibition have not yet reached the State of Falcon, and after supper, we prepared for departure at dawn, by early retirement.

### Overturned Automobile

We made our journey without incident until we got near Uramaco. There is a river bed near the town, and out of it a steep incline, on the top of which the village is built. Our driver got about half way up when he tried to change gear, and lost control of the car. One wheel ran up the bank and gradually the automobile turned over with four of us pinned underneath. We crept out amid crashing glass without injury, and in order to secure some papers which were buried beneath, we turned the car over, regarding it as completely useless. The chauffeur, who owned the car, looked at the wreck and said, "No me importa nada." We walked up to Uramaco, and were amazed afterwards to find the chauffeur had patched up the car and driven it into the village.

From Uramaco to Alta Gracia, which is on Lake Maracaibo, one passes through very infertile territory. Nothing seems to grow except cactus and a plant like mesquite. Houses are built of adobe and the roofs are almost flat. We crossed numerous river beds which during rain are impassable. In the afternoon we witnessed the most striking mirage I have ever seen, baggage mules, automobiles and trees seemed to be in the water; even the water appeared to be in motion, yet there was neither tree nor any indication of water for miles.

Two hours before reaching Alta Gracia we came to the bank of the river Matacora. There had been a local shower and the river had risen so high that it was impossible to cross with the cars loaded. We unloaded them, and with the aid of peons they were floated to the other side. About an hour before arriving at Alta Gracia we struck

(Continued on Page 128)

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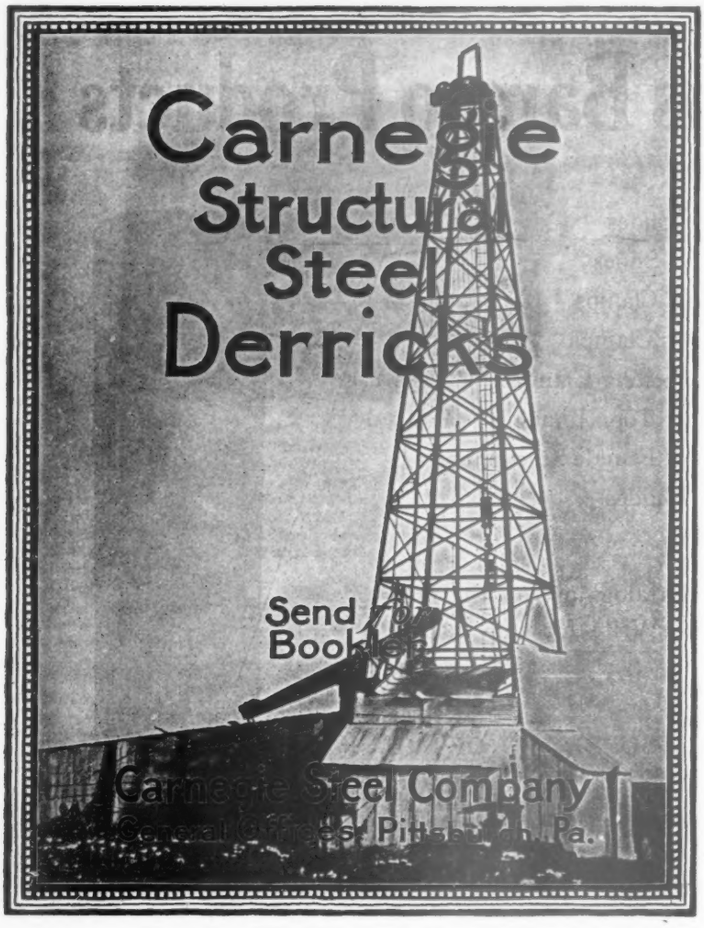


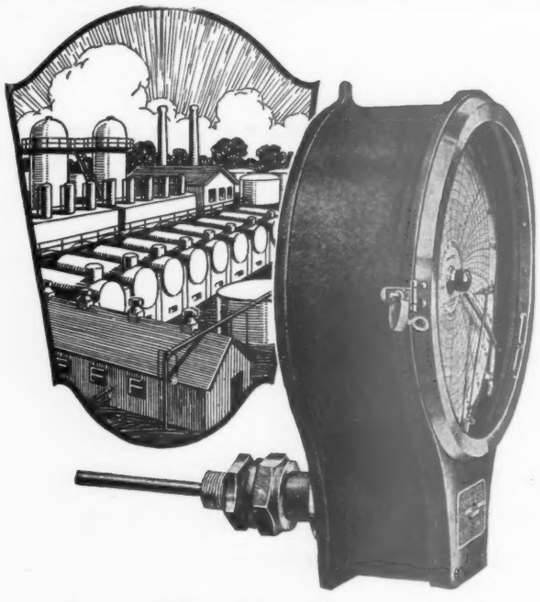

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## INDUSTRIAL POSITION OF KEROSENE REVIEWED

(Continued from Page 21)

eries in the Eastern area—they are making more gasoline than the Eastern area—they are making more kerosene than the Eastern area—they are making more fuel oil than the Eastern area.

In the first nine months of 1924 the refineries in Oklahoma and Kansas, including the refineries in Missouri, ran 60,751,000 bbls. of oil to stills. They recovered 5,664,000 bbls. of kerosene—an average recovery of 9.3 per cent. In 1923 these refineries ran 72,183,000 bbls. to stills and made 6,679,000 bbls. of kerosene—an average of 9.2, practically the same percentage as for the first nine months of 1924.

The Texas refineries, including the refineries in the Texas Gulf Coast, in the first nine months of 1924, ran 94,128,000 bbls. of oil to stills and made 9,476,000 bbls. of kerosene — an average recovery of 10 per cent. One is rather surprised to learn that the total throughput of the Texas and Texas Gulf Coast refineries for the first nine months of 1924 was only slightly less than the throughput of the great chain of refineries along the Atlantic seaboard—and that in this period they made practically as much keresene.

In 1923 the Texas and Texas Gulf Coast refineries ran 106,261,000 bbls. of oil to stills and made 12,757,000 bbls. of kerosene—an average recovery of 12.0 per cent.

The Arkansas-Louisiana refineries, including the Louisiana Gulf Coast refineries, in the first nine months of 1924, ran 37,526,000 bbls. of oil to stills and recovered 4,589,000 bbls. of kerosene—an average recovery of 12.2 per cent. In the year 1923 these refineries ran 41,753,000 bbls. of oil to stills and made 6,073,000 bbls. of kerosene—an average recovery of 14.5 per cent.

**Recovery by Sections**

Taking the Mid-Continent and Gulf Coast refineries as a whole, in the first nine months of 1924, they ran 192,405,000 bbls. of oil to stills and make 19,729,000 bbls. of kerosene—an average recovery of 10.2 per cent. In the year 1923 they ran 220,197,000 bbls. of oil to stills and made 25,509,000 bbls. of kerosene—an average recovery of 11.5 per cent.

Set up in tabular form the percentage recoveries of kerosene in these three sections of the Mid-Continent-Gulf Coast area would be:

| Area— | Year 1923 | 9. Mos. 1924 |
|---|---|---|
| Oklahoma-Kan.-Mo. .... | 9.2 | 9.3 |
| Texas and Tex. Gulf Coast ..... | 12.0 | 10.0 |
| Ark.-La. and La. Gulf Coast ..... | 14.5 | 12.2 |
| Average ..... | 11.5 | 10.2 |

The refineries in the Rocky Mountain area, in the first nine months of 1924, ran 25,903,000 bbls. of oil to stills and made 1,723,000 bbls. of kerosene—an average recovery of 6.6 per cent. In the year 1923 these refineries ran 33,930,000 bbls. of oil to stills and made 3,022,000 bbls. of kerosene—an average recovery of 8.9 per cent. It is a matter of some surprise to learn that in 1923 the total gallonage of kerosene made by the Rocky Mountain refineries was only about 20 per cent less than the combined output of the refineries in eastern and central Ohio West Virginia, western New York and western Pennsylvania—the birthplace of the "coal oil" business.

In the first nine months of 1924 the refineries in California ran 115,419,000 bbls. of oil to stills and made 4,844,000 bbls. of kerosene—an average recovery of only 4.2 per cent. In the year 1923 the California refineries ran 151,126,000 bbls. of oil to stills and made 5,146,000 bbls. of kerosene—an average output of 3.4 per cent.

Nothing could more clearly emphasize the relatively low grade of the great bulk of California oils than the fact that for the year 1923 the average recovery of gasoline was 20.2 per cent—of kerosene 3.4 per cent—of fuel oil 67 per cent.

Omitting the barrels of oil run to stills

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Every time you use the Norris Valve Puller, it more than pays for itself. Pull standing valve six times a year and you have a 600% investment.

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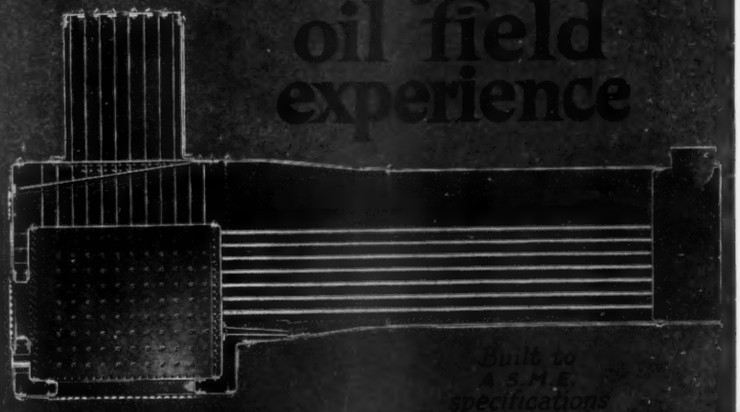


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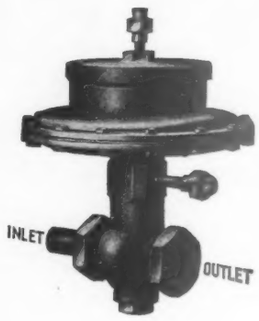


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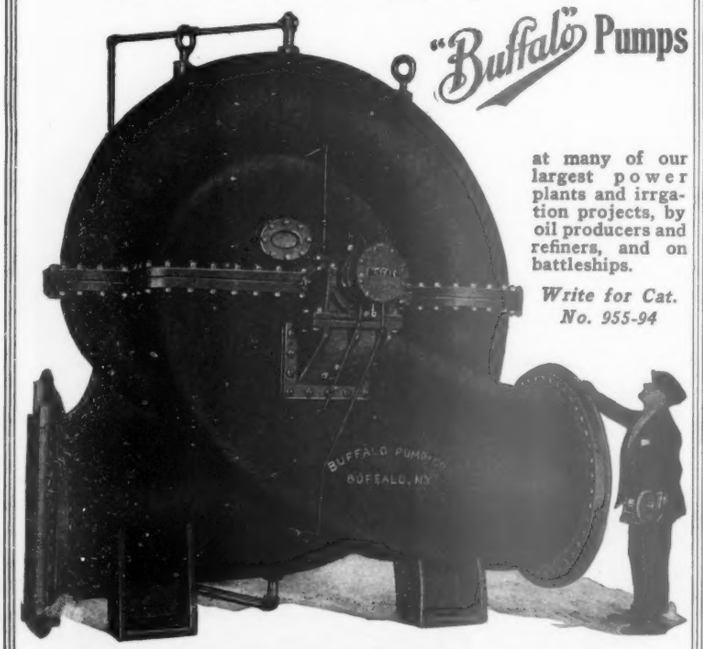


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in these four great refining areas, and expressing the relative refining values in terms of percentages of the recovery of kerosene for the first nine months of 1924 and the full year 1923 we have:

| Area— | Year 1923 | 9 Mos. 1924 |
|---|---|---|
| East of Miss. River.... | 11.2 | 10.0 |
| Mid-Cont.-Gulf Coast . | 11.5 | 10.2 |
| Rocky Mountain ..... | 8.9 | 6.6 |
| California ..... | 3.4 | 4.2 |
| Average ..... | 9.4 | 8.5 |

From the standpoint of the total output of kerosene made by the refineries in these areas we have:

| Area— | Year 1923 | 9 Mos. 1924 |
|---|---|---|
| East of Miss. River .... | 39.8 | 39.1 |
| Mid-Cont.-Gulf Coast .. | 45.6 | 45.7 |
| Rocky Mountain ..... | 5.4 | 4.0 |
| California ..... | 9.2 | 11.2 |
| Total ..... | 100.0 | 100.0 |

The development of the Mid-Continent oil fields has not only "re-made" the old oil map of the United States, upon which there were few changes, aside from gradual growth, for the first 40 years of the industry's history, but it has re-made it especially along the line of refinery development. From making practically all of the kerosene for 40 years, the area east of the Mississippi is today making little more than one-third.

The oil fields east of the Mississippi had 40 years "the start" of the Mid-Continent—but the marvelous development of the Mid-Continent's crude oil output during the last 25 years, the building of a refining capacity that is not only much larger, on paper, than the Eastern refining capacity, but that is actually larger both in throughput and in products made, have wrought far-reaching changes, not only within the industry itself, but in its relation to other industries.

**Stock and Production**

Referring to Table 2 we find that on January 1, 1924 our stock of kerosene was 283,000,000 gallons and that on September 30 it was over 297,000,000 gallons—an increase of about 14,500,000 gallons.

During this period our domestic production was 1,811,000,000 gallons and our imports 263,000 gallons. Our domestic consumption was 1,124,000,000 gallons and our exports 672,000,000 gallons. In other words our "curent supply" of kerosene (production plus imports) was 1,811,000,000 gallons while the "market" (consumption plus exports) was 1,797,000,000 gallons. The excess of the current supply over the market, 14,000,000 gallons, amounted to only eight-tenths of one per cent.

From January 1 to September 30, 1923 our current supply of kerosene was 1,702,000,000 gallons while the market was 1,745,000,000 gallons, which means that during that period we consumed and exported 43,000,000 gallons more kerosene than we produced and imported.

Comparing the net results for the first nine months of 1923 and 1924 we find that in 1923 we drew 43,000,000 gallons from stock, while in 1924 we added 14,000,000 gallons to stock.

In April, June and September of 1924 our consumption plus exports exceeded our production plus imports—during the other six months we produced and imported more than we consumed and exported.

**Still Using Kerosene**

With electric lighting and artificial gas lighting so almost universally used, probably most people are under the impression that the United States as a whole has practically discontinued the use of kerosene—and that almost all of our output is exported.

And yet, almost two-thirds of our total output is consumed right here in the United States.

From Table 3 we note that from January 1, 1918 to September 30, 1924, we made almost 15,000,000,000 gallons of kerosene. Our imports, for which definite figures are available beginning with October, 1922, have been such a small percentage of our production that they are negligible. Our domestic consumption


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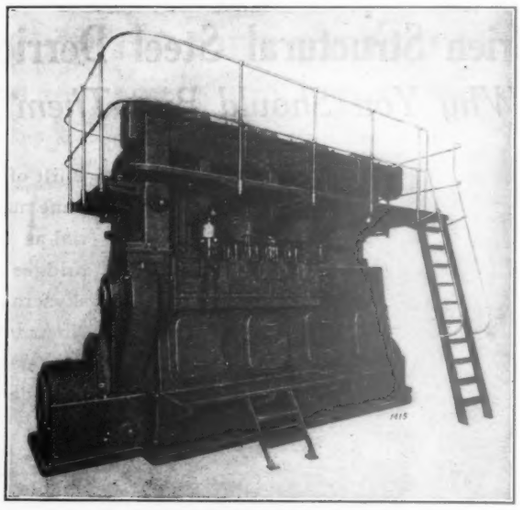

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The Cheapest Dependable Power
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was 9,551,000,000 gallons and our exports 5,547,000,000 gallons.

In other words, over a period of 81 months, our total consumption plus exports has exceeded our production plus imports almost exactly 200,000,000 gallons.

As our stock of kerosene on January 1, 1918 was 497,000,000 gallons, it obviously follows that this withdrawal of 200,000,000 gallons from stock left us with 297,000,000 gallons on hand on September 30, 1924.

During these six full years and nine months of the year 1924 we find that in 1918-1919-1921 and 1922 we have consumed and exported more kerosene than we produced and imported. In 1920, 1923 and this far in 1924 our production and imports have exceeded our consumption and exports.

We are producing kerosene today at a rate that indicates a total of about 2,400,000,000 gallons for the year 1924. Our imports are negligible, being about one-five-hundredth of one per cent. We are exporting kerosene at a rate that indicates about 900,000,000 gallons for the year 1924. Our domestic consumption is at a rate that indicates about 1,500,000,000 gallons for this year.

**Exports Doubled**

Since 1918 our production of kerosene has increased about one-third. Our domestic consumption is practically the same as in 1918. Our exports, however, have almost doubled in the last seven years. Our stock of kerosene on September 30, 1924, was 200,000,000 gallons less than on January 1, 1918.

But these figures do not tell all the story—and should not be permitted to leave the way open for essentially misleading conclusions. For instance—in the year 1900 we produced 63,000,000 bbls. of crude oil and it is obvious that the refiners took a "wider cut" into their crude and got a larger percentage of kerosene than they are getting today. Conceding, for the sake of illustration, that in 1900 the refiners recovered 25 per cent kerosene—this would have given 16,000,000 bbls. of kerosene as the year's output. It is rather interesting to note that in 1923, with an average recovery for the entire United States of 8.5, we made almost 56,000,000 bbls. of kerosene, compared with a possible recovery of 16,000,000 bbls. in 1900, based on a kerosene recovery of 25 per cent.

In 1900 there were 14,000 automobiles registered in the United States. Allowing 500 gallons of gasoline to the car, the total automobile consumption of gasoline could not have been over 7,000,000 gallons, or less than 170,000 bbls., compared with a crude output of 63,000,000 bbls. that year.

In the light of the size of the relative markets for kerosene and gasoline around the year 1900, one gets a new vision of some of the problems that confronted the refiners 25 years ago.

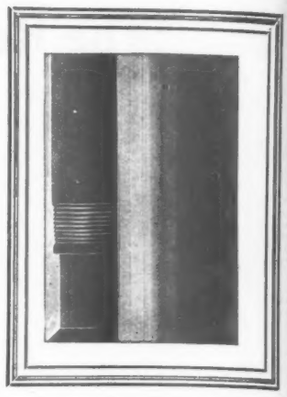
During the World War we drew upon our stocks of gasoline and kerosene, reducing our gasoline stock to 250,000,000 gallons October 31, 1918. We have, however reduced our kerosene stocks lower today than they were six years ago, whereas our gasoline stocks are five times as large as they were five years ago.

**Kerosene and Gasoline**

In comparing the relative movement of kerosene and gasoline from January 1, 1918 to September 30, 1924, we find that we have produced about 38,000,000,000 gallons of gasoline compared with about 15,000,000,000 gallons of kerosene.

Since the beginning of 1918 we have imported over 441,000,000 gallons of gasoline compared with probably only a few million gallons of kerosene. Obviously the entries in the "Imports" column in Table 3 are not complete, although conceding a total of several million gallons would still leave our imports a negligible factor compared with our production.

Since the beginning of 1918 we have exported 4,548,000,000 gallons of gasoline and 5,547,000,000 gallons of kerosene. It comes as something of a surprise to learn that in the above period

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Then mail your advertisement so that it will be in next Thursday's issue. The cost is so small that one favorable reply will pay for it a hundred times over.

The Oil and Gas Journal
Classified Wants Section
*"Biggest in America"*


we have actually exported a billion gallion gallons more kerosene than of gasoline.

In this same 81-month period our domestic consumption of gasoline totaled 33,000,000,000 gallons compared with 9,551,000,000 gallons of kerosene. Our domestic consumption plus exports of kerosene is less than 25 per cent larger today than in 1918, and practically the same as for the last six years, whereas our domestic consumption plus exports of gasoline is almost 2½ times as great as in 1918.

Our stock of kerosene has decreased from 498,000,000 gallons at the beginning of 1918 to 297,000,000 gallons on September 30, 1924—in the same period our stock of gasoline has increased from 412,000,000 gallons to 1,229,000,000 gallons.

Our consumption plus exports of kerosene were about 1,940,000,000 gallons in 1918—and in 1924 they will be about 2,400,000,000 gallons.

Our consumption plus exports of gasoline were about 3,700,000,000 gallons in 1918—and in 1924 they will be about 8,800,000,000 gallons.

**More Gasoline Exports**

In 1924 our exports of kerosene will be about 900,000,000 gallons—and of gasoline about 1,224,000,000 gallons. Thus while during the last 81 months we have exported a billion gallons more kerosene than gasoline we will, in 1924, export something over 300,000,000 gallons more gasoline than kerosene.

Summarizing the relative position of kerosene and gasoline today, we find that over 60 per cent of our kerosene is here at home and less than 40 per cent abroad—that about 87 per cent of our gasoline market is here at home and about 13 per cent abroad—that our domestic market for kerosene has not grown in the last seven years and that our foreign markets have grown very little—that our domestic market for gasoline has increased about 2½ times and that our foreign market has about doubled—that the amount of coal oil used for illumination is less than in 1918, while the amount used for power and heat has increased—that there were 6,000,000 motor vehicles in the United States in 1918 and there will be at least 17,500,000 at the close of 1924—that in 1918 there were about 1,000,000 motor vehicles in all of the countries outside the United States and that at the close of 1924 there will be about 3,500,000.

There is no "yard stick" with which to allocate the consumption of kerosene in foreign countries, compared with the relation between gasoline and motor vehicles, and while obviously we do not supply all of the gasoline used by motor vehicles in foreign countries, nor is all that we sell used by motor vehicles, yet it is rather interesting to figure out that if all that we supply this year is used by motor vehicles there will be about 320 gallons for each car.

**Tractors New Market**

The rapid increase in the use of farm tractors and kerosene-burning internal combustion engines is making a new market for kerosene as it loses its old market as an illuminant. Obviously the old market for kerosene as an illuminant is slowly but surely growing smaller, and it would appear that the new market is not only replacing it, but that this market will continue to expand with the growth of "power farming."

The next big angle of development—domestic heating with liquid fuel—is rapidly gathering force, and kerosene distillate is a very satisfactory fuel for several of the domestic burners now on the market.

Our present industrial development, and especially the development of kerosene-burning internal combustion engines and the use of liquid fuel burners in homes, all combine to assure kerosene that even though it lighted the world for 50 years, it has a newer and larger market that, while more prosaic than "burning the midnight oil" will be equally useful in advancing both civilization and industry.


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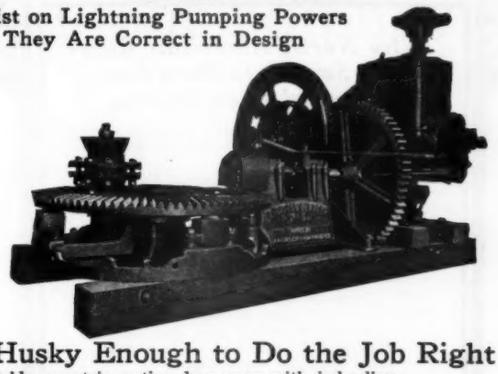

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## OIL MAN DESCRIBES TRIP TO VENEZUELA

(Continued from Page 120)

the jungle, which afforded a welcome shelter from the heat of the sun.

Alta Gracia is on the edge of Lake Maracaibo, and the sky seen through the leaning royal palms was something unforgettable.

Maracaibo lies a few miles southwest from Alta Gracia. It is a shipping center built mainly on sand, and is one of the hottest places in the tropics.

### Tropical Storms

It may not be out of place here to say something of the tropical storms, the force of which is seen best of all in the beds of rivers. At one moment one sees a lazy trickle of water with scarce any indication of movement—a tiny silver thread, fringed with bamboo and palms searching out its way round boulders that awaken suspicion that the bed is not always empty. Within a few hours this tiny trickle has become a raging torrent carrying with it trees and debris that are swept with terrific violence from the remoter hills; an hour passes and the roar of rushing water has ceased; the bed of the river is again exposed; the boulders have changed their position and rest peacefully in their new situation until another deluge sweeps down. The rain comes with surprising suddenness—the gaping, cracked earth is in an incredibly short period covered with water and temporary lakes appear where an hour before was dry, parched land. The rains that come suddenly, as swiftly pass, and the sun, which burns and stings, licks up within a few hours every trace of the storm.

### South of Lake Maracaibo

We made one trip of several days' duration south of Lake Maracaibo. Living conditions there are uncomfortable and any variety of food is difficult to obtain. I remember one evening when after a long ride we put up at a hut, as there was nothing of the nature of an inn in this village, and whilst some of our party were tying up their hammocks I saw a bed in a room and flung myself down on it. Long after night had fallen I awoke feeling uncomfortable, and searched around with a flashlight where I had been sleeping. I discovered so many horrid insects—including bedbugs—no doubt in search of food and warmth, that I determined to spend the rest of the night on the floor, which was of earth. I used my haversack for a pillow, and put my blanket on the floor. The next morning I found that where I had lain was as bad as the bed!

After several days in the saddle we reached the railway which brought us to Encontrados, a hot malarial village on the Rio Catatumbo. They have a saying in Encontrados that when one of the inhabitants dies without hope of Paradise, he provides himself with a blanket. We arrived there about 3 o'clock in the afternoon, expecting to be met by a yacht which unfortunately did not arrive. For important business reasons I wanted to get quickly to Maracaibo, and my inquiries revealed the unpleasant fact that the weekly boat had sailed early in the morning. One man reported that a hydroplane was lying in the river and I began negotiations with the aviator to take us to Maracaibo. He would not agree to leave in the evening as there was an electric storm over the lake. He quietly informed me that if the weather was good the following morning he could not take us, as he must continue his own work, which had to do with a boundary question between Columbia and Venezuela, but added, however, that if the weather was dull he would gladly take us.

### Plane Into River

I rose early the next morning and found a perfectly cloudless sky, but in an hour the weather changed and we left Econtrados without regrets at 9:50. We had not been more than 10 minutes in the air when the hydroplane descended rapidly, struck the water and drifted across to the bank of the river. We had lost a pin! The condition was much

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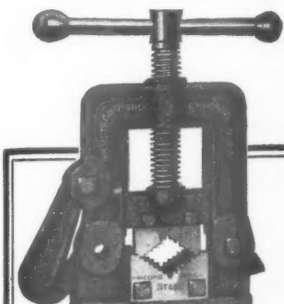

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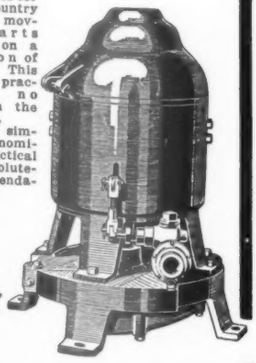

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worse than if we had not left Encontrados, but "necessity knows no law," and we hired a boy to proceed on muleback to Encontrados to replace the missing pin. We had covered the distance in 10 minutes, and calculated that it would take him seven hours, so we settled down on the bank of the river for the day. Fortunately there were a few huts near, and on inquiry we found that we could procure eggs and bananas.

An interesting incident occurred after we arrived. The natives who live in these huts had never seen a hydroplane, and probably never even heard of one, and one Indian woman approached the aviator and said, "Can you fly very high?" To which he replied "yes." "Can you fly very far?" He said, "Yes, very far." A look of alarm came over her face, and then she inquired if he could fly to the moon. The aviator said "yes." Then she said, "Can you fly to the stars?" He replied, "It takes much longer but we were there about a week ago."

A look of horror and pain came into her face, she flung up her hands is despair, and cried out, "You have found out God's secret! There is no God!"

We had little inclination to discuss philosophy with this remarkable woman as we were beginning to feel hungry. We ordered a meal, having found by experience that it takes at least an hour or an hour and a half to cook eggs; and at 1 o'clock we were summoned to the back yard for our meal. At one end of the table, which was made of unplaned wood, there was seated a very dirty woman feeding her baby. I struggled to the chair allotted to me over a pig engaged in feeding her young, and when I sat down there was a female dog to my right engaged in the same occupation.

**Journey in Dugout**

The table was dirty; needless to say there was no linen, and the food, which consisted of fried eggs and bananas, was literally crawling with ants, flies and other insects. About 5 o'clock the boy returned to say that no pin could be procured, so there was nothing to be done but to return to Encontrados, and I hired a canoe, which is a dugout and moves with the velocity of a tortoise. To speak in the concrete, the distance covered by us in 10 minutes in the morning we calculated would require in the canoe about nine hours. We left the hydroplane at the bank of the river at 6, and expected to reach Encontrados about 3 the following morning. The journey was a distressful one, as the men paddled the boat near the bank and there were myriads of mosquitos. About 10:30 we heard the whistle of a boat, then a light appeared; we flashed whatever electric lights we had and yelled wildly in order to stop the boat. The captain stopped and very kindly took us aboard. So within a few minutes we had reversed our course. The boat was going to Maracaibo which we reached the following evening.

**In the Jungle**

In the neighborhood of Maracaibo the physical conditions are similar to those between the Coro and Alta Gracia, but on the southern shore of the lake there is dense jungle that reveals the pitiless power of nature. There is a fierceness about life in the lowlands of the regions of the Equator that appalls, and carelessness in the matter of food or drink may be met with severe punishment. It is unsafe to be tempted by a piece of greensward to recline, or to touch a twig or shrub. The ground is covered with ants and insects, unknown except to the skilled zoologist. Snakes move about in the undergrowth with powerful weapons, and the air is made hideous by winged harbingers of the debilitating malaria germs. The shrubs are protected with thorns that poison. I recall one specimen that was covered with agressive spines. The leaves were about nine by six inches, and the top of every leaf had, standing up at right angles, great long thorns, and not only the upper side of the leaves but beneath they were armed in the same way. Every inch of the plant was protected with offensive and


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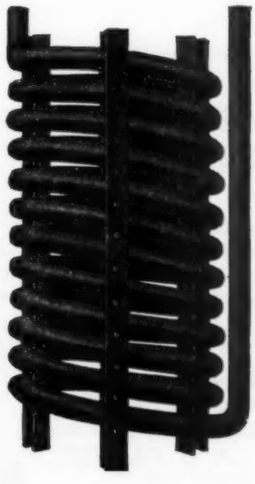

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Right: The Power Take-Off
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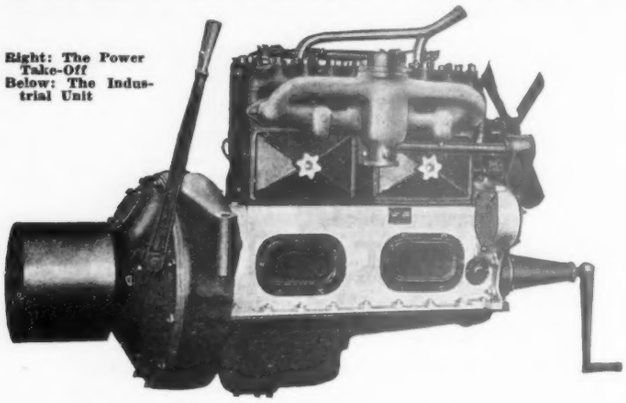
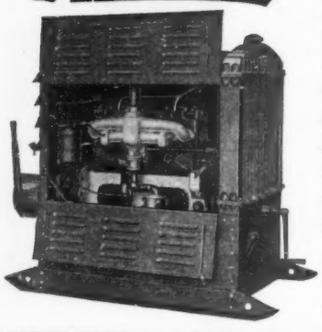


Waukesha
TRADE MARK



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defensive armour. Many of these plants and insects are, no doubt, perfectly harmless, but the fear of the unknown daunts the most ardent devotee of the Stoic creed; yet within all and over all there is a seductive beauty and a rich luxurious coloring that enthralls, and forms some antedote to the stings and pricks that are inescapable.

The moist heat begets indolence that invites defiance of ever present dangers which are as fatal as the spells of Circe. There is nothing more impossible in such an environment than the swift movements, mental and physical, that characterizes man in a modern industrial city. The jungle can neither be adequately described by pen or properly represented by photographs.

In Venezuela as in other tropical countries, it has great variety depending upon the rainfall, the nature of the soil and other local conditions. I was most impressed with it as seen near Boscan on the southeastern side of Lake Maracaibo. The village, which is merely a clearing in the jungle, consists of a few dozen huts surrounded by palms for shade. As one looks across the lake from which comes a soft, balmy breeze, one sometimes sees what appears to be smoke from a steamer; but there is no steamer in sight. This dark cloud is formed by mosquitos, in numbers approximating the paper wealth of Germany. Vessels seeing them make a wide detour to avoid them.

**Tangled Mass of Living**

Immediately behind the village is the jungle which if left for a few months woud absorb the few huts. The jungle at Boscan extends for about 3 miles inland, beyond which are the foothills, with the lofty Andes for a background. From the Andes descend torrential streams, many of which debauch on the land, causing the swamps for which the southern shore of the lake is noted.

The dense growth of the jungle causes semi-darkness at noonday. I have stood at Murren in the Alps and looked across the great gash which separates this spot from the Jungfrau, Monch and Eiger and felt in sympathy with the ancient writer who said, "I do exceedingly fear and quake," but the awe awakened by such a scene has a grand inspiration. In me, the jungle only provokes a nameless, unrelieved fear. Trees root themselves within the swamp and many of them grow to a great height, but they are never left to pursue their purpose alone. They are attacked by parasites that use them in their attempt to reach the sunlight above. Air plants entwine themselves around the upper branches and their long, hawser-like arms gorw downward in search of anchorage.

Everything within the jungle battles continuously and remorsely for life. There is no space unoccupied. There is no order. It is a huge, tangled mass of living, dying and dead things through which there is no pathway. The swamp is foetid and the breeding ground of germ laden insects. The jungle is nature in her most gloomy, aggressive, defiant mood.

Beyond the jungle and higher up there is rich pasture land, where the air is fresh and cool. Valera, which is about 3,000 feet above the lake, is a pleasant village. The scenery is beautiful, the village is surrounded by mountains that are scarred and riven by wind, rain and electric storms. Valera has two main streets and several cross streets. We met there one evening a doctor who adds to his medical studies those of archaeology and folk-lore, and he told us some of the local superstitions. He mentioned the proprietress of a certain hotel who drinks milk at 5 every morning stirred by a burnt deer's horn, as a cure for asthma. Some peasants believe that leprosy is caused by eating a lizard, and a certain cure for scrofula is buzzard's blood rubbed on the neck.

He gave an interesting account of an old woman who was locally supposed to have a knowledge of medicine. Summoned to see a patient, she asked him if he preferred to be examined by X-rays or blue-rays. The X-rays, she said.

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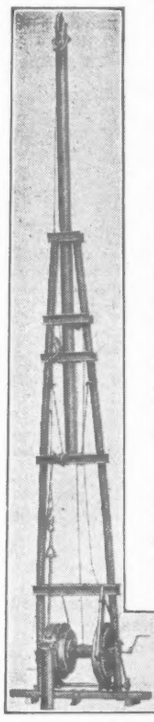

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cost $4, and the blue $3. He said he preferred the expensive ones. She held up a bottle, made a few passes and told him that he had a hair in his stomach which was attacking his heart. She advised him to take a walk in the dew in his bare feet and certain medicines of her own compounding, which she guaranteed would cure him of his trouble.

**From Chichiviriche to El Pozon**

The last trip I made in Venezuela was from Chichiviriche to El Pozon, where the North Venezuela Petroleum Co., Ltd., was drilling a well. There are numerous mud volcanoes at El Pozon, the first I had seen in Venezuela. I was accompanied by the manager of the company and my son. Chichiviriche is a small village built on a sheltered bay of the Caribbean, behind which stretches miles of sand and stunted trees.

After three or four hours of mule back one reaches the Tocuyo River, beyond which we entered the jungle. From the first time we saw the river until we reached the crossing, the journey seemed endless, and the road in some places was almost impassable, even for the mules. The river was in flood; the mules swam across, and we were poled over in a dugout. Having crossed the river, we traveled by road to El Pozon. The road had been laid out in harmony with the lazy principle of choosing the line of least resistance, and without any regard to the rainy season. We were unfortunate in having chosen a period after rain, and for more than half the journey the mules were knee-deep in ticky mud.

About 3 in the afternoon we came to a clearing where a shed had been erected, which consisted of uprights and a roof, but was a welcome shelter. We spent an hour and a half there, as my son was suffering from a slight sunstroke. During the time we waited there, we heard the so-called 'howling monkeys.' To one who has never heard these monkeys their howls are terrifying. W. H. Hudson in his "Green Mansions" describes his experience when he first heard them:

**Chorus of Howling Monkeys**

"A slight rustling sound in the foliage above me made me start and cast up my eyes. High up, where a pale gleam of tempered sunlight fell through the leaves, a grotesque human-like face, black as ebony and adorned with a great red beard, appeared staring down upon me. In another moment it was gone. It was only a large araguato, or howling monkey, but I was so unnerved that I could not get rid of the idea that it was something more than a monkey. Once more I moved, and again, the instant I moved my foot, clear, and keen, and imperative, sounded the voice! It was no longer possible to doubt its meaning. It commanded me to stand still—to wait—to listen! Had it cried, 'Listen! Do not move!" I could not have understood it better. Trying as the suspense was, I now felt powerless to escape. Something very terrible, I felt convinced, was about to happen, either to destroy or to release men from the spell that held me.

"And while I stood thus rooted to the ground, the sweat standing in large drops on my forehead, all at once close to me sounded a cry, fine and clear at first, and rising at the end to a shriek so loud, piercing and unearthly in character that the blood seemed to freeze in my veins, and a despairing cry to heaven escaped my lips; then, before that long shriek expired, a mighty chorus of thunderous voices burst forth around me; and in this awful tempest of sound I trembled like a leaf; and the leaves on the trees were agitated as if by a high wind, and the earth itself seemed to shake beneath my feet; I was deafened, and would possibly have been maddened had I not, as by a miracle, chanced to see a large araguato on a branch overhead, roaring with open mouth and inflated throat and chest.

"It was simply a concert of howling monkeys which had so terrified me! But my extreme fear was not strange in the circumstances; since everything that had led up to the display, the gloom and silence, the period of suspense and my heated imagination, had raised my mind to the highest degre of excitement and

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expectancy. I had always heard them at a distance; here they were gathered in scores, possibly hundreds—the whole araguato population of the forest I should think—close to me, and it may give some faint conception of the tremendous power and awful character of the sound thus produced by their combined voices when I say that this animal—miscalled "howler" in English—would outroar the mightiest lion that ever woke the echoes of an African wilderness."

It was fortunate I had heard the monkey in the afternoon as the sequel will show.

**Night in the Jungle**

We left here about 4:30 and reached another clearing, three hours distant from El Pozon, which was our objective. We sent a boy to warn those in charge of the camp of our arrival. In less than half an hour, the boy returned and announced that a river a short distance ahead was impassable. We did not know whether it was a device on the part of the boy to avoid traveling alone in the dark, so we decided to get the mules ready and go ahead. There were two peons in this clearing whom we took along with us to test the depth of the water, but before we reached the bridge it was evident that a crossing was too risky, which meant a night must be spent in the jungle—my first experience in such surroundings. In a few minutes we had our hammocks slung up in a shed where there were neither windows nor doors. We covered each hammock with a mosquito bar, and after partaking of a meagre meal, we crept within. My two companions were asleep in a few minutes, but the surroundings were so bizarre that I could not sleep. Darkness had scarcely set in when the jungle began to give evidence of abundant life. First of all, bullfrogs croaked with distressful vehemence. To this was shortly added the roaring of several "howling monkeys," and but for the fact that I had heard these during the afternoon, I would have been filled with terror. These infernal noises so far had no more disastrous effect than to keep me awake. Within, however, a few minutes, I heard the ominous howl of jaguars which appeared to be no more than 50 feet away. I felt truly alarmed. A jaguar in a zoo behind bars and a jaguar in its native haunts are two wholly disparate experiences. I lay for about 10 minutes wondering what I should do. What with mosquitos, bats, monkeys and jaguars, sleep was now my least concern. Every denizen of these dark woods had now joined these howling beasts. I crept from my hammock and walked over to a shed where the two peons were asleep; I told them of my fears and bargained with them to light two fires—one at the front and one at the back of the shed—and to keep them going during the night. They assured me that I need have no fear of the jaguars as if these beasts were hungry, they would first of all attack the mules. Their assurances, however, did not suffice and after some discussion they arose and started the fires. Thus I was able to return to my hammock with some degree of safety. My two companions slept through it all. Dawn came at last, and with a cessation of the howls of that hideous, unforgettable night.

At 6 we left and crossed the river, beneath which flowed a lazy stream which the evening before was a roaring, menacing torrent.

## ROCKY MOUNTAIN OIL MEN HOLD CONVENTION

(Continued from Page 85)

production that can be expected in Wyoming from the black oil fields known at present totals 90,000,000 bbls.

Black oil was the first oil discovered in Wyoming and led to the discovery of its light competitor; the life of the oil industry depends as much upon the black oil fields as the lighter and it was argued it only requires education of the public to create a demand for the black oil that will place it as a factor of importance in the industry of this region. The greatest need is asphalt roads and


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in these the black oils of Wyoming are unexcelled.

J. B. Barnes, Midwest Refining Co., said all that was lacking was the demand for black oil; sufficient production was in sight to furnish a large market and the main use would be found as asphalt for paving the highways. Its use as a fuel oil will not amount to much locally as gas is available. Mr. Barnes contrasted the cement manufacturers' procedure in this region and that of the black oil producers. The cement makers have had legislation passed in Colorado that asphalt from other States cannot be used on Colorado highway construction and cement made in Colorado only can be used legally there in building roads.

President Brooks read a letter from the Commercial Association of Lovell, Wyo., which invited the convention to visit the new strike by the California Co. in the Byron Field. He also announced the association is to make an effort to have the Government reduce the royalty on edge wells in the Salt Creek and other fields. This production is dwindling since the gas pressure has become reduced and this failure of gas pressure has so increased operating costs the operators on the edge of the field cannot afford to pay the high royalties on the Government leases.

**Government Regulation**

"The Possibility and Danger of Government Regulation of the Petroleum Industry," was discussed by Attorney James P. Kem, attorney for The Texas Co. at Casper, and spoke of the prevailing mania for new laws. He referred to the work in the Salt Creek Field and the small loss there through waste, attained through the cooperation of the different companies in the drilling of wells and the handling of difficult situations by the Conservation Committee of producers.

Max W. Ball, president of the Western Pipe Line Co. and the Marine group, said a fourth necessity had come to civilization over the older ones, food, clothing and shelter. Transportation had brought much happiness and the gasoline engine is now a universal power. It would be possible to live without gasoline as our forefathers had done but we would have much less happiness. The public was always adverse to gasoline prices, but he ascribed this to lack of information and laid the fault to the oil industry in that it did not attempt to educate the public and tell them of the costs in producing gasoline.

Geologist W. H. Geis of the Consolidated Royalty gave some statistics on the cost of discovery of fields in this region and the relative value of gasoline produced from the crude. In 1923 only three oil fields, Rex Lake, Notches and Black Mountain were brought in and three gas fields, at Enos Creek, Baxter Basin and Buffalo Dome; all through the drilling of 41 wildcat wells, and this resulted in an average of 13 structures tested to each field found. In Colorado during the same year, the operators drilled 19 wildcats which brought in two fields, the Wellington and the Moffat. Figuring the total expenditure, each field cost over $1,000,000 to find in Wyoming; $455,800 for each field in Colorado and $249,600 for each field in New Mexico. Also after discovery of a field, the cost of outlining the productive area is much greater than the original cost of finding oil.

Petroleum Engineer E. L. Estabrook of the Midwest Refining Co. added that the seasons also played an important part in production in this region. The cost of producing oil in cold weather increased about one-third over that of summer which factor did not enter into the production figures of other regions where the climate was warmer.

**Filling Station Costs**

R. M. Andrus, superintendent of the Standard of Indiana's plant No. 1 at Casper, ascribed much of the overhead in filling stations to the effort to give service to the customer.

Judge Fred W. Freeman of The Texas Co. said the well equipped filling station was demanded by the public and necessary. He likened the filling station to a funnel that carried the oil production


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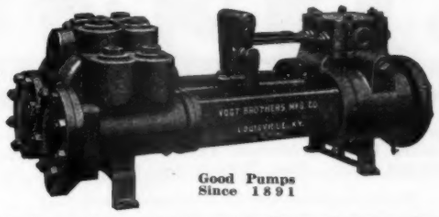

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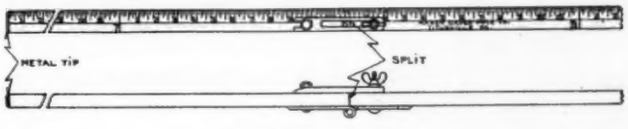


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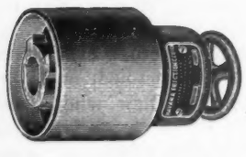

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of the fields to its ultimate customer and stated that the present day filling station offered a chance the oil men have overlooked to acquaint the public with the facts regarding the oil business today.

The nominating committee reported the following for officers and directors for the coming year:

B. B. Brooks, president; Charles S. Sherman, Union Oil Co.; M. J. Foley, Mutual Oil Co.; Leslie A. Miller, Aero Products Co.; Minal E. Young, New York Oil Co.; Max W. Ball, Marine Oil Co.; R. S. Ellison, Midwest Refining Co.; W. L. Connelly, Mammoth Oil Co.; R. E. Wertz, Producers & Refiners; E. B. Coolidge, Homestake Oil Co.; F. A. Thompson, Dean of the School of Mines; J. C. Howard, Utah Oil & Refining Co.; A. Baker, Ohio Oil Co.; E. J. Sullivan, E. T. Williams Oil Co.; L. C. Klein, Continental Supply Co.; R. W. Wallace, Kasoming Oil Co.

**Standardization of Equipment**

"Standardization of Oil Field Equipment," was discussed by H. J. Lockhart of the Parkersburg Rig & Reel Co. of West Virginia. He cited the good already accomplished in standardizing casing and pipe, the new standard tool joint and many others, and said the American Petroleum Institute at Fort Worth was to consider at least four more changes that would mean great saving.

President Brooks read a telegram from the American Oil Men's Association signed by H. G. James, congratulating the Rocky Mountain Association on its work.

"Filling Station Problems," a paper by F. E. Chandler, was read by H. E. Daly of the Midwest Refining Co. According to Mr. Chandler there is small chance for any station to boost the retail price on account of competition. Too many people suppose there are big profits in the filling station business and enter same, and to these people is due the occasional price cutting.

Leslie A. Miller of the Aero Products Co. talked of the "Convenience of Filling Stations."

**Gas Production**

Maxwell W. Winter followed on the "Progress of the Gas Trade in Wyoming." Mr. Winter is secretary of the New York Oil Co. which was the first company to place gas in Casper. The drain on those fields which have a market is very heavy; out of 68 wells drilled in the Poison Spider that produced gas, only 24 are now making production, the others having been abandoned.

R. E. Wertz, general manager of the field work of the Producers & Refiners, stated that at present there were nearly twice as many gas areas as oil fields with a consequent heavy loss to the producer because of no market. He recommended oil men use every effort to bring into the State industries that can utilize this gas in manufacture.

J. W. Steele, supervisor of the Bureau of Mines at Casper, said that conservation, as the Bureau of Mines understood it, does not mean to fast or abstain from the use of the natural resources, but the use of such resources in an intelligent way that would prevent waste. Great saving has been accomplished in the oil fields. The engineers of the Bureau are searching all the time for new means of saving and making use of the waste in the fields. Mr. Steele asked for cooperation between the bureau and oil men and conservation when a low market price prevailed as well as when the market was high.

Superintendent J. C. Lindsay of the Marine Oil Co. cited further improvements that might be made by the bureau, especially in the matter of drilling offset wells where the first well shows a small production around 15 bbls. Offset wells to such small producers are unnecessary, according to Mr. Lindsay, and the regulations should be changed to give the operators relief.

State Geologist Albert Bartlett said the work of the bureau had saved oil men enormous sums and was of great benefit to every oil man and the country.

Max W. Ball of the Marine Oil Co. mentioned that Colorado politicians were preparing measures to be placed before the Legislature looking to the regula-


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tion laid down by the Bureau of Mines. If some of the measures proposed were to become laws, the work there would be placed under a serious handicap.

Petroleum Engineer E. L. Estabrook said water analysis is becoming very important and the Bureau of Mines has placed a competent chemist and laboratory in the Salt Creek Field for the use of operators. Water from the Cretaceous sands can be identified and each sand from the other, but more data is required on the waters from the deeper sands and he asked that samples from wildcat wells be sent in for testing.

**Coordination of Branches**

Attorney A. M. Gee of the Ohio Oil Co. followed Mr. Steele with a paper on "Coordination of the Branches of the Petroleum Industry." He endorsed the movement for one great unification including all branches of the oil industry. The operator receives the smallest return of any branch and this branch should be the first to coordinate for its own protection. By so doing, the producer may be able to hold back floods of oil when the market cannot take care of it. Mr. Gee warned the oil men they showed small interest in the proposed taxes on gasoline although this was a vital factor; that the politicians were anxious to put their fingers in the oil machinery and regulate it as they saw fit to the ultimate ruin of the industry. Already the oil business is paying $2,000,000 in Wyoming alone to the Highway Department as taxes that do not come from the people in any way and he closed with an appeal that the industry and the convention take steps to see that the public is informed more clearly as to the nature of the problems of the oil business and that publicity be promoted by the members of the association.

**Publicity Stressed**

Vice President R. S. Ellison of the Midwest stated that due to ignorance of the facts, the public mind has accepted as a stigma against the oil business the effort of demagogues in Washington to create a place for themselves in the sun of public opinion. Had the oil industry been able to answer the tirades against it as it would if it had publicity agents like the great businesses of other divisions of commerce this would have been dropped as hot coals by the politicians.

The Oil and Gas Journal was mentioned as a great help in this matter of publicity, but the matter demanded concerted action by all concerned. Mr. Ellison warned the convention that when men like McMaster can unsettle the whole trade through taking advantage of a refiner's hardships, it was high time something was done to avert a repetition of such troubles.

Leslie A. Miller asked why refiners should sell gasoline at less than cost to men like McMaster, to hurt the industry. Mr. Gee answered Miller that in the sale of the gasoline with which McMaster caused trouble in South Dakota, the refiner had stocked up heavily with crude for his refinery and had run this crude to gasoline until his storage was full just at a time when the bottom dropped out of the gasoline market and the refiner was placed in such a position that he either had to realize on his gasoline or face bankruptcy. In this way, McMaster obtained the gasoline at a price below the cost of manufacurers.

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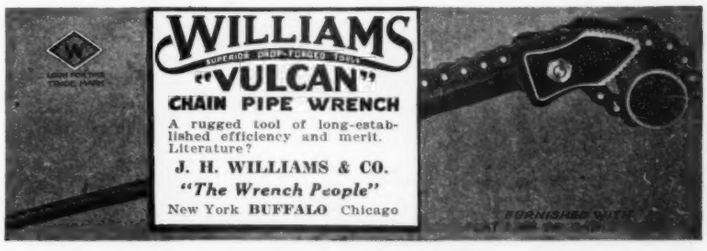


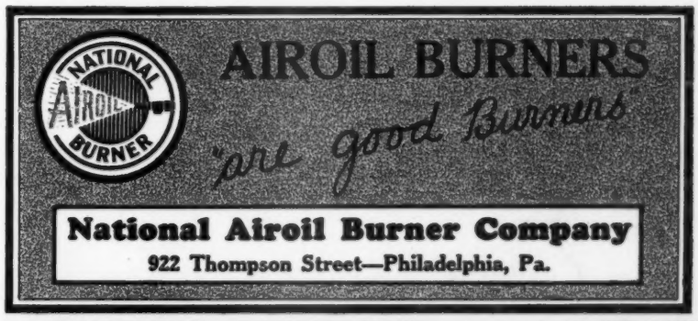

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# Oklahoma-Kansas and Eastern Pipe Line Report

### OKLAHOMA-KANSAS PIPE LINE REPORT FOR OCTOBER

**Runs**

| | Month | Dy. Av. |
|---|---|---|
| *Prairie P. L. Co. | 3,410,000 | 110,000 |
| Gulf P. L. Co. | 1,067,356 | 34,108 |
| Texas P. L. Co. | 482,473 | 15,564 |
| Magnolia Pet. Co. | 1,296,278 | 41,815 |
| Empire P. L. Co. | 858,555 | 27,695 |
| Cosden P. L. Co. | 780,226 | 25,169 |
| *Sinclair P. L. Co. | 1,688,477 | 54,467 |
| *Other lines | 9,052,000 | 292,000 |
| Total October | 18,625,365 | 600,818 |
| Total September | 18,667,071 | 622,235 |
| Difference | 31,706 | 21,417 |

**Shipments**

| | | |
|---|---|---|
| †Prairie P. L. Co. | 3,239,593 | 104,503 |
| Gulf P. L. Co. | 1,119,591 | 36,116 |
| Texas P. L. Co. | 906,597 | 29,245 |
| Magnolia Pet. Co. | 1,170,086 | 37,745 |
| Empire P. L. Co. | 903,016 | 29,130 |
| Cosden P. L. Co. | 840,177 | 27,102 |
| †Sinclair P. L. Co. | 2,251,056 | 72,615 |
| *Other lines | 8,866,000 | 286,000 |
| Total October | 19,296,116 | 622,456 |
| Total September | 17,949,510 | 598,317 |
| Difference | 1,246,606 | 14,139 |

**Stocks**

| | |
|---|---|
| *Prairie Oil & Gas Co. | 26,600,000 |
| *Prairie Pipe Line Co. | 2,000,000 |
| Gulf Pipe Line Co. and Gypsy Oil Co. | 9,707,279 |
| The Texas Co. | 5,887,643 |
| Magnolia Petroleum Co. | 9,489,606 |
| Empire Pipe Line Co. | 3,118,795 |
| Cosden Pipe Line Co. | 2,895,796 |
| *Sinclair Crude Oil Purchasing Co. | 29,350,000 |
| Carter Oil Co. | 17,774,386 |
| *Other lines | 10,600,000 |
| Total October | 117,423,510 |
| Total September | 117,616,834 |
| Difference | 193,324 |

*Estimated.

†Prairie Pipe Line shipments include shipments of Texas crude oil. Sinclair Pipe Line shipments include Texas and Wyoming

Note: Stocks do not include approximately 9,000,000 bbls. of crude oil held in storage on private tank farms and leases.

#### Runs From Wells

In the following table will be found the regular receipts from wells by various pipe lines in New York, Pennsylvania, West Virginia, Ohio, Kentucky and Indiana for October and November.

| | Oct. '24 | Nov. '24 |
|---|---|---|
| Nat. Transit | 199,575.25 | 155,466.95 |
| S. W. Pa. P. L. | 90,883.89 | 76,738.81 |
| Eureka P. L. | 396,969.58 | 313,985.41 |
| Buckeye P. L. (Macksburg) | 288,639.76 | 249,515.67 |
| Buckeye P. L. (Cleveland) | 15,068.52 | 12,628.22 |
| Buckeye P. L. (Lima, etc.) | 145,493.29 | 110,392.18 |
| Indiana P. L. | 13,732.04 | 9,906.55 |
| Cumberland P. L. | 353,376.22 | 317,529.60 |
| N. Y. Transit | 19,341.15 | 15,690.46 |
| Tidewater P. L. | 145,975.11 | 114,304.20 |
| Pure Oil P. L. | 193,849.91 | 173,772.14 |
| Emery P. L. | 43,225.22 | 37,435.54 |
| Indian Ref. | 62,081.48 | 48,956.23 |
| Paragon Dev. | 37,082.21 | 38,440.19 |
| Pittsburgh P. L. | 8,975.04 | 6,584.73 |
| Riggs | | 7,103.24 |
| Total | 2,014,258.67 | 1,698,450.12 |
| Daily average | 64,976.08 | 56,281.67 |

Note—Indian Refining Co. also reported other receipts of 378,319.61 bbls. Paragon Refining Co. had other receipts of 110,767.16 bbls. Paragon Development Co. had other receipts of 3,790.55 bbls.

#### Petroleum Deliveries

The following tables exhibit the shipments or regular deliveries of various pipe lines in New York, Pennsylvania, West Virginia, Ohio, Kentucky and Indiana for October and November.

| | Oct. '24 | Nov. '24 |
|---|---|---|
| Nat. Transit. | 316,814.05 | 328,195.08 |
| S. W. Pa. P. L. | 314,257.16 | 76,738.81 |
| Eureka P. L. | 172,363.77 | 133,437.43 |
| Buckeye P. L. (Macksburg) | 100,388.72 | 79,776.94 |
| Buckeye P. L. (Cleveland) | 1,402.46 | 1,212.94 |
| Buckeye P. L. (Lima, etc.) | 400,601.18 | 605,811.51 |
| Indiana P. L. | 775,886.48 | 906,678.87 |
| Cumberland P. L. | 121,292.74 | 123,095.54 |
| N. Y. Transit | 521,646.52 | 770,271.02 |
| Northern P. L. | 136,838.32 | 128,548.45 |
| Tidewater P. L. | 156,746.09 | 116,150.08 |
| Pure Oil P. L. | 144,366.46 | 135,576.29 |
| Emery P. L. | 42,307.10 | 34,849.05 |
| Paragon Ref. | 93,965.35 | 110,767.16 |
| Indian Ref. | 477,162.81 | 450,627.79 |
| Paragon Dev. | 31,059.70 | 38,440.19 |
| Pittsburgh P. L. | 11,164.71 | 8,621.26 |
| Riggs | | 2,314.39 |
| Total | 3,818,263.62 | 4,272,010.39 |
| Daily average | 123,169.79 | 26,817.37 |

#### Gross Stocks

The gross stocks held by various pipe lines in the oil producing section of New York, Pennsylvania, West Virginia, Ohio, Indiana and Kentucky at the close of October and November were as follows:

| | Oct. 24 | Nov. '24 |
|---|---|---|
| Nat. Transit | 1,058,840.27 | 1,022,658.64 |
| S. W. Pa. P. L. | 699,936.45 | 663,131.46 |
| Eureka P. L. | 1,884,227.94 | 133,437.43 |
| Buckeye P. L. (Macksburg) | 407,451.51 | 395,669.54 |
| Buckeye P. L. (Cleveland) | 53,051.25 | 65,129.15 |
| Buckeye P. L. (Lima, etc.) | 4,474,343.57 | 4,372,559.45 |
| Indiana P. L. | 643,838.15 | 601,629.59 |
| Cumberland P. L. | 623,817.30 | 617,906.57 |
| Southern P. L. | 454,510.60 | 476,795.57 |
| Crescent P. L. | 58,247.53 | 58,213.43 |
| N. Y. Transit | 799,719.98 | 711,774.78 |
| Northern P. L. | 863,572.00 | 679,449.45 |
| Pure Oil P. L. | 371,999.94 | 404,853.15 |
| Emery P. L. | 7,444.98 | 9,770.82 |
| Paragon Ref. | 90,298.77 | 102,333.48 |
| Indian Ref. | 157,931.51 | 135,869.56 |
| Paragon Dev. | 8,649.08 | 9,416.32 |
| Pittsburgh P. L. | 6,180.23 | 4,168.88 |
| Riggs | | 765.27 |
| Total | 12,664,061.12 | 12,268,529.76 |
| Increase | 457,226.25 | |
| Decrease | | 395,531.36 |

#### Grades of Oil

The following table shows the amount of the different grades of oil held by the Eastern pipe lines at the close of October and November, showing the gross stocks of the above fields:

| | Oct. 24 | Nov. '24 |
|---|---|---|
| Pennsylvania | 3,930,646.58 | 3,906,769.11 |
| Lima | 1,326,652.80 | 1,330,142.27 |
| Kentucky | 1,482,174.97 | 1,569,619.78 |
| Mid-Continent | 5,808,670.66 | 5,359,367.61 |
| Illinois | 116,916.11 | 102,630.99 |
| Total | 12,664,061.12 | 12,268,529.76 |

#### Daily Average Runs

The following table shows the daily average runs of the Pennsylvania, Lima and Kentucky oil fields for the past four years:

| | 1921 | 1922 | 1923 | 1924 |
|---|---|---|---|---|
| January | 64,460 | 67,702 | 75,790 | 62,638 |
| February | 70,054 | 75,096 | 71,093 | 68,029 |
| March | 68,555 | 78,531 | 76,592 | 68,721 |
| April | 65,036 | 75,462 | 75,614 | 71,058 |
| May | 65,466 | 77,592 | 77,365 | 63,942 |
| June | 62,438 | 76,193 | 77,593 | 63,230 |
| July | 59,486 | 76,435 | 71,879 | 64,208 |
| August | 64,888 | 79,387 | 76,910 | 59,942 |
| September | 60,110 | 78,512 | 72,358 | 62,930 |
| October | 57,688 | 77,209 | 76,256 | 64,976 |
| November | 58,470 | 75,313 | 70,762 | 56,282 |
| December | 61,000 | 73,351 | 69,271 | |

#### Daily Average Shipments

The following table gives daily average shipments from the Pennsylvania, Lima and other fields for past four years:

| | 1921 | 1922 | 1923 | 1924 |
|---|---|---|---|---|
| January | 115,550 | 119,792 | 171,067 | 145,518 |
| February | 76,736 | 111,362 | 164,219 | 148,732 |
| March | 84,168 | 127,753 | 185,487 | 147,098 |
| April | 101,015 | 127,068 | 170,751 | 147,611 |
| May | 100,253 | 127,840 | 177,102 | 134,997 |
| June | 105,037 | 137,638 | 173,598 | 143,010 |
| July | 97,096 | 137,782 | 168,330 | 124,187 |
| August | 101,652 | 153,275 | 142,766 | 123,120 |
| September | 117,440 | 158,761 | 137,266 | 127,325 |
| October | 105,728 | 165,345 | 134,597 | 122,170 |
| November | 121,803 | 165,677 | 131,426 | 124,400 |
| December | 104,023 | 172,861 | 139,909 | |

#### Gross Stocks

In the following table will be found the gross stocks of the various lines of the Pennsylvania, Lima and Kentucky oil fields, including oil received from other lines, at the close of each month for the past three years:

| | 1922 | 1923 | 1924 |
|---|---|---|---|
| January | 16,297,858 | 14,040,567 | 12,907,202 |
| February | 17,009,293 | 14,028,437 | 11,844,063 |
| March | 16,877,537 | 13,873,146 | 10,906,753 |
| April | 16,777,842 | 13,737,575 | 10,922,742 |
| May | 16,948,962 | 13,815,622 | 11,335,369 |
| June | 16,810,169 | 14,541,253 | 11,544,206 |
| July | 16,660,286 | 14,645,584 | 12,062,361 |
| August | 16,235,229 | 14,770,539 | 12,221,976 |
| September | 16,228,545 | 14,803,444 | 12,206,336 |
| October | 15,757,746 | 14,504,111 | 12,664,061 |
| November | 15,171,972 | 14,157,726 | |
| December | 14,323,765 | 13,444,361 | |

#### Franklin Pipe Line Co.

The following table exhibits the condition of the Franklin Pipe Line at the close of business for the months named and not counted in the stocks and averages reported above:

| 1923— | Receipts | Shipments | Stocks |
|---|---|---|---|
| November | 2,980.66 | 4,156.98 | 16,154.47 |
| December | 2,893.07 | 3,489.27 | 15,548.27 |
| 1924— | | | |
| January | 2,942.19 | 8,641.71 | 9,848.75 |
| February | 2,151.78 | 1,926.55 | 10,073.98 |
| March | 3,398.78 | 1,716.38 | 11,756.48 |
| April | 3,311.84 | 2,066.78 | 13,001.54 |
| May | 3,036.50 | 5,338.21 | 10,699.33 |
| June | 3,188.31 | 407.01 | 13,481.13 |
| July | 3,067.74 | 8,334.29 | 13,214.58 |
| August | 2,901.38 | 6.21 | 16,109.72 |
| December | 2,893.07 | 3,489.27 | 15,548.27 |
| October | 3,342.40 | 1,880.50 | 14,590.32 |
| November | 2,700.13 | 4,862.89 | 12,427.56 |

#### The Illinois Field

The following table gives the report of the Illinois Pipe Line Co. in Illinois:

| | |
|---|---|
| Gross stocks, Dec. 1 | 2,166,830.42 |
| Runs from wells | 625,668.56 |
| Other receipts | 120,119.63 |
| Regular deliveries | 503,186.59 |
| Other deliveries | 340,472.56 |

The amount of Illinois oil run by the Tidewater Pipe Line Co. in November was 26,478.68 bbls., and deliveries were 18,272.71 bbls. Adding these figures to those of the Illinois Pipe Line Co. makes the runs and deliveries from the Illinois Field as follows:

| 1923— | Runs | Deliveries |
|---|---|---|
| November | 546,359.43 | 285,692.09 |
| December | 534,185.04 | 382,542.41 |
| 1924— | | |
| January | 493,337.25 | 280,792.00 |
| February | 585,490.70 | 353,613.14 |
| March | 611,285.36 | 369,542.51 |
| April | 514,356.43 | 339,546.10 |
| May | 751,080.44 | 510,414.42 |
| June | 725,060.87 | 528,403.38 |
| July | 759,646.84 | 552,386.50 |
| August | 720,457.72 | 519,335.79 |
| September | 714,875.36 | 525,762.80 |
| October | 741,767.42 | 543,863.77 |
| November | 660,147.63 | 521,459.21 |

The Tidewater Pipe Co., Ltd., also delivered in November 317,162.27 bbls. of Oklahoma oil. The total deliveries of all grades by the Tidewater were 451,585.06 bbls.

## AVERAGE WEEKLY RECEIPTS OF CALIFORNIA OIL AT ATLANTIC AND GULF PORTS

| Av. bbls. per wk.— | ATLANTIC PORTS | | | | | | GULF COAST PORTS | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Baltimore | Boston | New York | Philadelphia | Others | Total | Galveston | New Orleans Baton Rouge | Pt. Arthur Sabine Pass | Tampa | Total | Total All Ports |
| May | 42,903 | 33,194 | 615,709 | 92,706 | 61,642 | 846,154 | ..... | 70,127 | ..... | ..... | 70,127 | 916,281 |
| June | 121,800 | 34,300 | 581,000 | 103,369 | 51,331 | 891,800 | ..... | ..... | ..... | ..... | ..... | 891,800 |
| July | 37,710 | 16,129 | 473,516 | 84,452 | 42,452 | 654,249 | ..... | 16,936 | ..... | ..... | ..... | 671,185 |
| August | 114,032 | 33,419 | 654,387 | 71,806 | 33,871 | 907,515 | 907,515 | ..... | 6,774 | ..... | ..... | 914,289 |

## AVERAGE WEEKLY IMPORTS OF PETROLEUM AT PRINCIPAL UNITED STATES PORTS

| Av. bbls. per wk.— | ATLANTIC PORTS | | | | | | GULF COAST PORTS | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Baltimore | Boston | New York | Philadelphia | Others | Total | Galveston | New Orleans Baton Rouge | Pt. Arthur Sabine Pass | Tampa | Total | Total All Ports |
| March | 148,356 | 141,806 | 283,458 | 124,642 | 292,642 | 990,906 | 463,806 | 365,358 | 223,552 | 55,545 | 1,108,261 | 2,099,167 |
| April | 152,369 | 154,931 | 913,900 | 94,962 | 248,969 | 971,131 | 382,900 | 348,131 | 119,000 | 15,869 | 865,900 | 1,837,031 |
| May | 156,485 | 134,602 | 288,903 | 59,612 | 300,097 | 939,699 | 315,679 | 295,358 | 199,591 | 38,164 | 848,792 | 1,788,491 |
| June | 120,169 | 108,731 | 434,931 | 68,131 | 239,400 | 971,362 | 412,741 | 251,762 | 169,831 | 33,831 | 868,165 | 1,829,527 |
| July | 62,097 | 81,291 | 445,067 | 38,418 | 277,970 | 904,843 | 320,194 | 273,455 | 130,739 | 34,973 | 759,361 | 1,666,204 |
| August | 80,839 | 57,355 | 247,710 | 98,903 | 207,065 | 691,872 | 370,549 | 238,677 | 115,839 | 14,677 | 739,743 | 1,431,614 |

## GROSS PRODUCTION AND DAILY AVERAGE IN THE UNITED STATES FOR 12 MONTHS

| | | California | Oklahoma | Texas | Kansas | Arkansas | Louisiana | Wyoming-Montana | Other Fields | Total |
|---|---|---|---|---|---|---|---|---|---|---|
| 1923— | | | | | | | | | | |
| November: | Month | 22,397,843 | 12,334,620 | 15,556,507 | 3,268,340 | 2,973,000 | 1,816,860 | 4,792,466 | 3,138,464 | 65,278,608 |
| | Daily average | 746,595 | 411,154 | 518,550 | 75,628 | 99,100 | 60,562 | 159,782 | 104,615 | 2,175,968 |
| December: | Month | 21,899,247 | 12,232,259 | 10,065,856 | 2,345,150 | 4,617,850 | 1,919,574 | 3,304,326 | 3,147,812 | 58,932,074 |
| | Daily average | 706,427 | 394,589 | 324,705 | 75,650 | 129,608 | 61,922 | 106,591 | 101,542 | 1,901,034 |
| 1924— | | | | | | | | | | |
| January: | Month | 20,912,500 | 12,292,833 | 10,336,643 | 2,233,878 | 3,686,680 | 1,601,175 | 4,636,230 | 2,950,500 | 58,640,439 |
| | Daily average | 674,597 | 396,543 | 333,449 | 71,738 | 118,926 | 51,651 | 149,556 | 95,177 | 1,891,627 |
| February: | Month | 19,341,226 | 12,236,637 | 10,495,486 | 2,112,853 | 3,202,750 | 1,497,450 | 4,168,450 | 2,997,700 | 56,152,553 |
| | Daily average | 666,939 | 421,953 | 361,913 | 72,857 | 113,888 | 51,629 | 143,740 | 103,369 | 1,936,295 |
| March: | Month | 19,913,262 | 13,336,851 | 12,077,617 | 2,206,425 | 3,882,695 | 1,701,593 | 3,993,890 | 3,258,000 | 60,370,333 |
| | Daily average | 642,363 | 430,221 | 389,601 | 71,175 | 125,248 | 54,890 | 128,835 | 105,097 | 1,947,430 |
| April: | Month | 19,299,849 | 13,452,240 | 11,725,830 | 3,265,090 | 4,068,225 | 1,495,582 | 3,901,755 | 3,231,000 | 59,439,571 |
| | Daily average | 643,328 | 448,408 | 390,861 | 75,503 | 135,608 | 49,853 | 130,058 | 107,700 | 1,981,319 |
| May: | Month | 19,833,576 | 14,248,057 | 11,923,316 | 3,486,696 | 4,659,117 | 1,596,701 | 4,023,564 | 3,356,000 | 62,136,027 |
| | Daily average | 639,793 | 459,615 | 384,623 | 80,216 | 150,291 | 51,507 | 130,109 | 108,226 | 2,004,065 |
| June: | Month | 18,807,999 | 14,457,390 | 11,515,020 | 2,473,320 | 4,756,443 | 1,811,880 | 3,798,634 | 3,211,500 | 60,832,186 |
| | Daily average | 626,933 | 481,913 | 383,834 | 82,444 | 158,548 | 60,419 | 126,621 | 107,050 | 2,027,739 |
| July: | Month | 19,274,755 | 15,191,860 | 11,820,889 | 2,678,834 | 4,698,160 | 1,931,641 | 3,738,625 | 3,387,990 | 62,612,654 |
| | Daily average | 621,766 | 490,050 | 381,319 | 86,414 | 148,321 | 62,311 | 120,276 | 109,290 | 2,019,736 |
| August: | Month | 19,112,998 | 16,572,104 | 11,805,753 | 2,717,398 | 4,400,116 | 1,898,246 | 3,816,627 | 3,280,017 | 63,603,269 |
| | Daily average | 616,548 | 534,584 | 380,831 | 87,658 | 141,810 | 61,234 | 123,117 | 105,807 | 2,051,718 |
| September: | Month | 18,308,233 | 16,299,030 | 10,670,640 | 2,688,690 | 4,022,025 | 1,811,985 | 3,427,455 | 3,305,700 | 60,535,760 |
| | Daily average | 610,274 | 543,301 | 355,688 | 89,623 | 134,068 | 60,996 | 114,249 | 110,190 | 2,017,792 |
| October: | Month | 18,696,565 | 16,153,604 | 10,985,315 | 2,769,819 | 3,875,558 | 1,878,941 | 3,063,810 | 3,472,031 | 60,895,643 |
| | Daily average | 603,115 | 521,084 | 354,365 | 89,349 | 125,018 | 60,611 | 98,510 | 112,001 | 1,964,053 |
| Total 12 months | | 237,807,058 | 168,807,485 | 135,978,872 | 29,236,985 | 48,242,619 | 20,961,628 | 46,655,732 | 38,735,714 | 729,417,101 |
| Daily average | | 649,746 | 461,223 | 379,724 | 79,612 | 131,810 | 54,540 | 127,475 | 105,808 | 1,992,942 |

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| | 1924 |
|---|---|
| 67 | 12,907,201 |
| 37 | 11,844,063 |
| 46 | 10,906,782 |
| 75 | 10,922,742 |
| 22 | 11,335,309 |
| 53 | 11,644,204 |
| 84 | 12,062,361 |
| 39 | 12,221,876 |
| 44 | 12,206,836 |
| 11 | 12,664,063 |
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| 51 | ..... |

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| ts | Stocks |
|---|---|
| 8 | 16,154.47 |
| 7 | 15,548.27 |
| 1 | 9,848.75 |
| 5 | 10,073.98 |
| 8 | 11,756.43 |
| 8 | 13,001.54 |
| 1 | 10,699.83 |
| 1 | 13,481.13 |
| 9 | 13,214.58 |
| 1 | 16,109.73 |
| 7 | 15,548.27 |
| 9 | 14,590.32 |
| 9 | 12,427.56 |

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| | |
|---|---|
| 2,166,830.42 | |
| 623,668.95 | |
| 120,119.63 | |
| 503,186.50 | |
| 340,472.50 | |

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| Deliveries |
|---|
| 285,692.09 |
| 282,542.41 |
| 280,792.00 |
| 353,613.14 |
| 369,542.51 |
| 339,546.10 |
| 510,414.42 |
| 528,403.38 |
| 552,386.50 |
| 519,335.79 |
| 535,762.80 |
| 543,863.77 |
| 521,459.21 |

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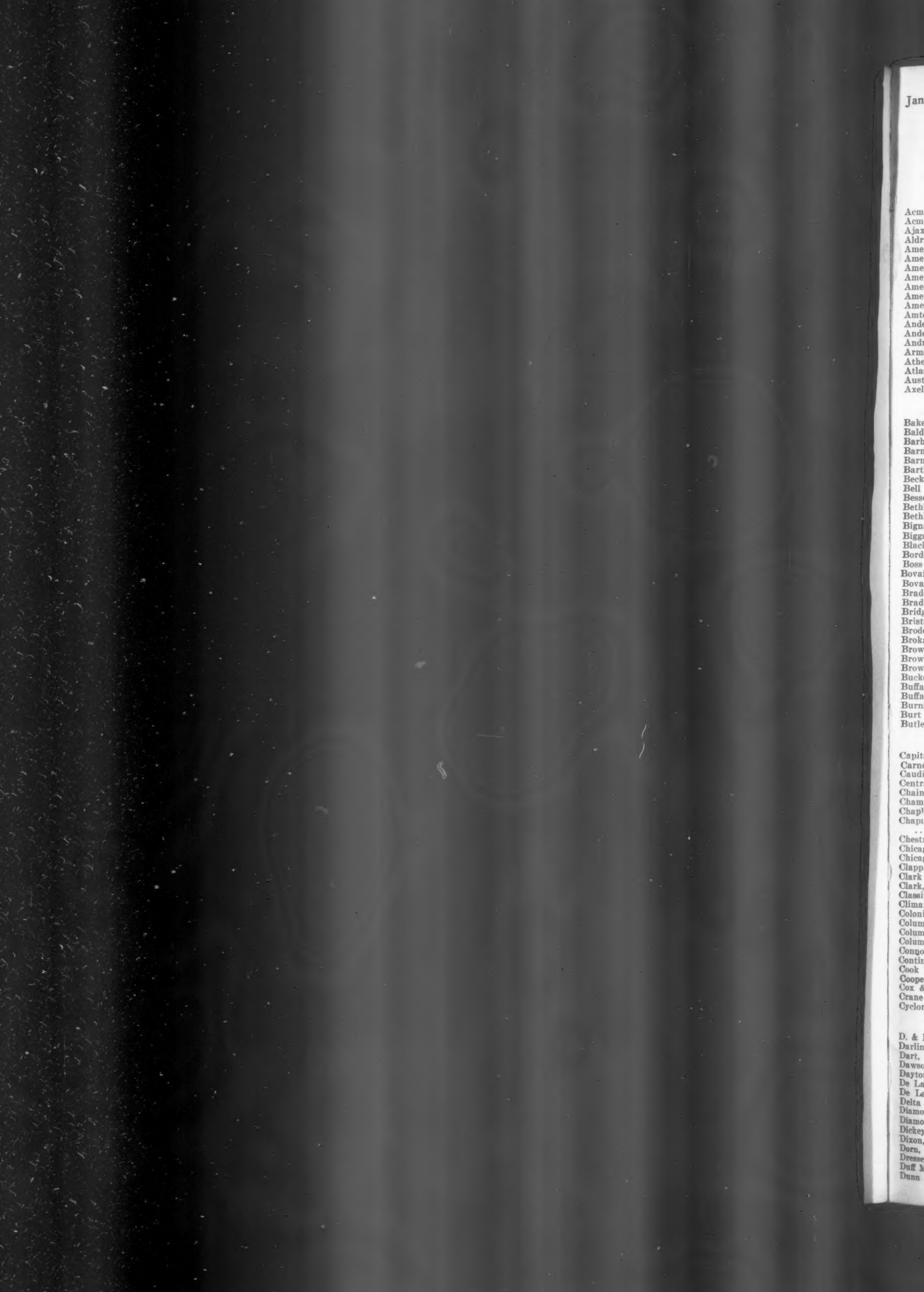
| Total All Ports |
|---|
| 916,381 |
| 591,866 |
| 671,286 |
| 914,289 |

| Total All Ports |
|---|
| 2,099,147 |
| 1,837,031 |
| 1,788,491 |
| 1,829,527 |
| 1,666,204 |
| 1,431,614 |

| Total |
|---|
| 5,278,605 |
| 2,175,958 |
| 8,932,074 |
| 1,901,024 |
| 8,640,439 |
| 1,891,627 |
| 3,152,552 |
| 1,936,295 |
| 0,370,333 |
| 1,947,430 |
| 9,439,571 |
| 1,981,319 |
| 2,136,027 |
| 2,004,065 |
| 6,632,136 |
| 1,027,739 |
| 1,612,654 |
| 1,019,736 |
| 1,603,359 |
| 1,061,719 |
| 1,533,753 |
| 1,017,793 |
| 1,885,643 |
| 964,053 |
| 417,101 |
| 992,943 |



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